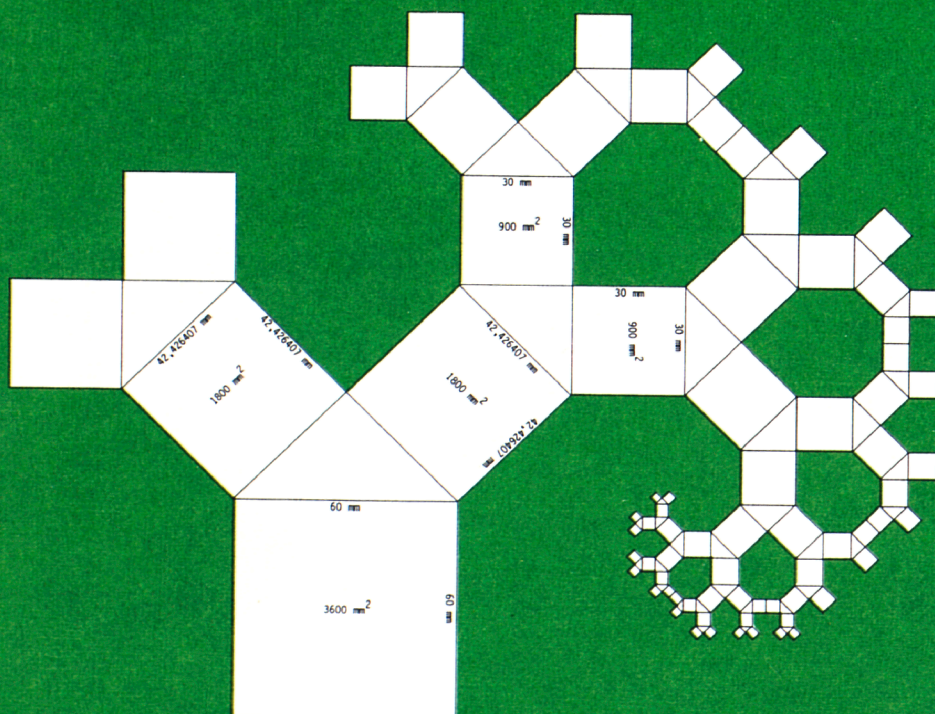


COST PROJECTS

COLLECTED AGREEMENTS

VOLUME I 1971-1980



Council of the European Communities

COST Projects

Collected

Agreements concluded within the framework of European Cooperation
in the field of Scientific and Technical Research

Volume 1
1971-80

COST SECRETARIAT

GENERAL SECRETARIAT OF THE COUNCIL OF THE EUROPEAN COMMUNITIES

This publication is also available in:

DA ISBN 92-824-0109-X
DE ISBN 92-824-0110-3
FR ISBN 92-824-0112-X
IT ISBN 92-824-0113-8
NL ISBN 92-824-0114-6

Cataloguing data can be found at the end of this publication

Office for Official Publications of the European Communities, 1983

ISBN 92-824-0111-1

Catalogue number: BX-37-83-207-EN-C

Reproduction authorized in whole or in part, provided the source is acknowledged

Printed in the Federal Republic of Germany

Foreword

This publication is the first volume of a collection which will include all the agreements concluded within the framework of European Cooperation in the field of Scientific and Technical Research, better known by its abbreviation COST.

There are 19 participant States in this form of cooperation, which was inaugurated in 1969 at the initiative of the Council of the European Communities, namely:

Belgium — Denmark — Federal Republic of Germany — Greece — Spain — France — Ireland — Italy — Yugoslavia — Luxembourg — Netherlands — Norway — Austria — Portugal — Switzerland — Finland — Sweden — Turkey — United Kingdom.

It enjoys special arrangements for cooperation with the Community as such, which, moreover, provides it with secretariat and infrastructure services.

The fields covered by COST cooperation in this volume are as follows:

1. Informatics
2. Telecommunications
3. Transport
4. Oceanography
5. Metallurgy and materials science
6. Environmental protection
7. Meteorology
8. Agriculture
9. Food technology

The COST agreements are divided into four separate categories of cooperation:

CATEGORY I:

Community R & D programmes, adopted on the basis of the Treaties establishing the Communities, in which non-Community COST States may be involved;

CATEGORY II:

projects initiated within the COST framework and in which the Community as such participates alongside the non-Community COST States;

CATEGORY III:

projects initiated within the COST framework and in which the Community as well as its Member States and the non-Community COST States participate;

CATEGORY IV:

projects initiated within the COST framework and in which COST States, whether or not members of the Community, participate, but not the Community as such.

The COST agreements take very varied legal forms, ranging from international conventions in the classical sense to Memoranda of Understanding, the latter constituting an original instrument evolved within the COST framework itself.

More detailed information on COST cooperation is contained in a booklet published by the General Secretariat of the Council of the European Communities in November 1981.

We hope that this collection will meet the desires frequently expressed by all those interested in COST cooperation.

Stockholm, February 1983

JOHANN MARTIN-LÖF
Chairman, COST Senior Officials

Abbreviations

ECSC	European Coal and Steel Community
EEC	European Economic Community
EAEC	European Atomic Energy Community (Euratom)
ACPM	Advisory Committee on Programme Management
COMAC	Steering Committee on Concerted Action
CREST	Scientific and Technical Research Committee
ESA	European Space Agency
IMCO	Inter-Governmental Maritime Consultative Organization
JAF	Working Party on Legal, Administrative and Financial Questions
OECD	Organization for Economic Cooperation and Development
PREST	Scientific and Technical Research Policy

Contents

In chronological order

<i>Project</i>		<i>Page</i>
COST 50/51/52	Agreement on the implementation of a European concerted action project in the field of metallurgy on the topic <i>Materials for gas turbines</i>	13
	Annex — Research subjects	19
	Synoptic table	21
COST 68	Agreement on the implementation of a European project on pollution, on the topic <i>Sewage sludge processing</i>	23
	Annex — Definition of the project	30
	— Proposed research	30
	— Financial requirements for the implementation of the project	30
	Synoptic table	32
COST 53	Agreement on the implementation of a European concerted action project in the field of metallurgy on the topic <i>Materials for desalination plants</i>	33
	Annex — Research subjects	39
	Synoptic table	40
COST 61a	Agreement on the implementation of a European project on pollution, on the topic <i>Research into the physico-chemical behaviour of SO₂ in the atmosphere</i>	41
	Annex — Definition of the project	47
	— Proposed research	47
	— Financial requirements for the implementation of the project	47
	Synoptic table	48
COST 64b	Agreement on the implementation of a European project on pollution, on the topic <i>Analysis of organic micropollutants in water</i>	49
	Annex — Definition of the project	56
	— Proposed research	56
	— Financial requirements and implementation of the project	56
	Synoptic table	58
		7

<i>Project</i>		<i>Page</i>
COST 11	Agreement on the establishment of a <i>European informatics network</i>	59
	Annex — Purpose of the network	66
	— Description of work	66
	— Organization for implementation	66
	Synoptic table	68
COST 25/1	Agreement on the implementation of a European telecommunications project on the topic <i>Aerial network with phase control</i>	69
	Annex	76
	Synoptic table	77
COST 25/2	Agreement on the implementation of a European telecommunications project on the topic <i>Aerials with reduced first side-lobes and maximum G/T yield</i>	79
	Annex	85
	Synoptic table	86
COST 70	Convention establishing the <i>European Centre for Medium-Range Weather Forecasts</i>	87
	Annex — Provisional scale of contributions	100
	— Protocol on the Privileges and Immunities of the European Centre for Medium-Range Weather Forecasts	101
	— Final Act	106
	Synoptic table	107
COST 56	Research programme for a joint project in the field of <i>materials for superconducting electrical machines</i>	109
	Annex	112
	Synoptic table	118
COST 211	Memorandum of Understanding on the implementation of a European project on <i>redundancy reduction techniques for visual telephone signals</i>	119
	Annex I — Coordination of the project	123
	Annex II — General description of the work planned for the project	125
	Synoptic table	127
COST 30	Memorandum of Understanding on the implementation of a European project on <i>electronic traffic aids on major roads</i>	129
	Annex I — Coordination of the project	133
	Annex II — Technical annex	135
	Synoptic table	154

<i>Project</i>		<i>Page</i>
COST 208	Memorandum of Understanding for the implementation of a European project on <i>optical fibre communication systems</i>	155
	Annex I — Coordination of the project	159
	Annex II — General description of the project	162
	Synoptic table	164
COST 47	Memorandum of Understanding for the implementation of a European research project on <i>benthic coastal ecology</i>	165
	Annex I — Coordination of the project	169
	Annex II — General description of the project and indicative pattern of potential participation	171
	Synoptic table	173
COST 43	International Agreement on the setting up of an <i>experimental European network of ocean stations</i>	175
	Annex I — Description of the project	181
	Annex II — Legal status of ODAS	200
	Synoptic table	217
COST 68 bis	Community-COST Concertation Agreement on a concerted action project in the field of <i>treatment and use of sewage sludge</i>	219
	Annex A — Programmes covered by the Agreement	224
	Annex B — Terms of reference and composition of the Community-COST Concertation Committee on treatment and use of sewage sludge	225
	Annex C — Financing rules	226
	Synoptic table	228
COST 201	Memorandum of Understanding for the implementation of a European research project on <i>methods for planning and optimization of telecommunications networks</i>	229
	Annex I — Coordination of the project	233
	Annex II — General description of the project	236
	Synoptic table	238
COST 202	Memorandum of Understanding for the implementation of a European research project on <i>digital local telecommunication networks</i>	239
	Annex I — Coordination of the project	243
	Annex II — General description of the project	246
	Synoptic table	249
COST 72	Memorandum of Understanding for the implementation of a European research project on <i>measurement of precipitation by radar</i>	251

<i>Project</i>		<i>Page</i>
COST 72 <i>(continued)</i>	Annex I — Coordination of the project	255
	Annex II — General description of the project	258
	Synoptic table	260
COST 46	Memorandum of Understanding for the implementation of a European research project on <i>mariculture</i>	261
	Annex I — Coordination of the project	265
	Annex II — General description of the project and indicative pattern of potential participation	268
	Synoptic table	270
COST 83/84	Memorandum of Understanding for the implementation of a European research project on the <i>production and feeding of single cell protein</i>	271
	Annex I — Coordination of the project	275
	Annex II — General description of the project and indicative pattern of potential participation	278
	Synoptic table	281
COST 61a bis	Community-COST Concertation Agreement on a concerted action project in the field of <i>physico-chemical behaviour of atmospheric pollutants</i>	283
	Annex A — Programmes covered by the Agreement	288
	Annex B — Terms of reference and composition of the Community-COST Concertation Committee on physico-chemical behaviour of atmospheric pollutants	289
	Annex C — Financing rules	290
	Synoptic table	292
COST 64b bis	Community-COST Concertation Agreement on a concerted action project in the field of <i>analysis of organic micropollutants in water</i>	293
	Annex A — Programmes covered by the Agreement	298
	Annex B — Terms of reference and composition of the Community-COST Concertation Committee on analysis of organic micropollutants in water	299
	Annex C — Financing rules	300
	Synoptic table	302
COST 90	Community-COST Concertation Agreement on a concerted action project on the <i>effects of processing on the physical properties of foodstuffs</i>	303
	Annex A — Programmes covered by the Agreement	308
	Annex B — Terms of reference and composition of the Community-COST Concertation Committee on the effects of processing on the physical properties of foodstuffs	309
	Annex C — Financing rules	310
	Synoptic table	312

<i>Project</i>		<i>Page</i>
COST 204	Memorandum of Understanding for the implementation of a European research project on <i>phased array antennas and their novel applications</i>	313
	Annex I — Coordination of the project	317
	Annex II — General description of the project	320
	Synoptic table	324
COST 205	Memorandum of Understanding for the implementation of a European research project on <i>influence of the atmosphere on radiopropagation on satellite-earth paths at frequencies above 10 GHz</i>	325
	Annex I — Coordination of the project	329
	Annex II — General description of the project	332
	Synoptic table	334
COST 82	Memorandum of Understanding for the implementation of a European research project on <i>maize as a basic feed for beef production</i>	335
	Annex I — Coordination of the project	339
	Annex II — General description of the project and indicative pattern of potential participation	352
	Synoptic table	344
COST 85	Memorandum of Understanding for the implementation of a European research project on the <i>early weaning of piglets</i>	345
	Annex I — Coordination of the project	349
	Annex II — General description of the project and indicative pattern of potential participation	352
	Synoptic table	354
COST 86	Memorandum of Understanding for the implementation of a European research project on <i>mineral nutrition of basic field crops</i>	355
	Annex I — Coordination of the project	359
	Annex II — General description of the project and indicative pattern of potential participation	362
	Synoptic table	364

	<i>Page</i>
Recapitulatory tables	365
Annex: Categories of cooperation	370
Index	371

Agreement
on the implementation of a European concerted
action project in the field of metallurgy on the topic
‘Materials for gas turbines’

(COST Project 50/51/52)

**Agreement
on the implementation of a European concerted
action project in the field of metallurgy on the topic
‘Materials for gas turbines’**

(COST Project 50/51/52)

The Governments of the Federal Republic of Germany,
the French Republic,
the Italian Republic,
the Grand Duchy of Luxembourg,
the Kingdom of the Netherlands,
the Republic of Austria,
the Swiss Confederation,
Sweden,
the United Kingdom of Great Britain
and Northern Ireland, and

the European Coal and Steel Community,

hereinafter referred to as ‘the Signatories’,

HAVE ACCEPTED participation in the concerted action project described below, hereinafter referred to as ‘the project’, and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project, which is being undertaken in order to stimulate research and development in the field of metallurgy on the topic ‘Materials for gas turbines’. An outline description of the work envisaged for this project is contained in the Annex.

The aim of the project is to stimulate the carrying out of coordinated research and development operations on the above topic by means of contracts between the competent public bodies on the one hand and industrial firms and research establishments (public or private research centres, university centres and joint centres), on the other, or by entrusting work to public research establishments which agree to work in association on a multinational basis.

Article 2

The duration envisaged for work on the project shall be a period not exceeding three years, unless otherwise determined unanimously by the Signatories.

Article 3

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement, on condition that the annual sum allocated by new Signatories to work on the pro-

ject is no less than the smallest sum allocated to the project by the other Signatories.

Article 4

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up reasoned recommendations based on the research proposals submitted to it. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

Article 5

The Committee shall:

(a) invite industrial undertakings and research establishments to submit research proposals, preferably on a multinational basis, on the subject of the project;

(b) examine the research proposals submitted by industrial undertakings and research establishments;

(c) recommend the allocation of research tasks among the industrial undertakings and research establishments and address to the bodies concerned recommendations on the proposed contracts which, in its view, should be adopted, as well as on the duration of these contracts;

(d) promote associations between partners from different countries;

(e) supervise the progress of the work and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;

(f) draw up programme proposals for any extension of the work beyond the expiry of this Agreement;

(g) publish an annual progress report.

All matters dealt with by the Committee shall be kept confidential.

Article 6

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 7

The research outlay devoted to the work planned for the project shall be divided as follows among the Signatories:

Signatories	Annual maximum amount in UA
Governments of	
Federal Republic of Germany	500 000
French Republic	400 000
Italian Republic	375 000
Grand Duchy of Luxembourg	100 000
Kingdom of the Netherlands	100 000
Republic of Austria	100 000
Swiss Confederation	315 000
Sweden	100 000
United Kingdom of Great Britain and Northern Ireland	380 000
European Coal and Steel Community	120 000

These amounts include both contributions from public funds and contributions from industrial firms and their research establishments.

Any joint expenditure shall be shared equally between the Signatories, with the exception of Secretariat expenses.

Article 8

The financial contribution of each Signatory to be supplied out of public funds shall not, in principle, exceed 60% for each contract in the case of contracts concluded with industrial undertakings or their research centres, and 75% in the case of contracts concluded with other research establishments. These provisions shall not apply to re-

search organizations financed entirely or chiefly by public authorities.

The Signatories shall, if they so desire, have the opportunity to make provision in their contracts for a total or partial refund of their contributions by the State if the research is successful.

Article 9

Applications for the award of contracts may be submitted by industrial firms and research establishments, preferably working in association, which are capable of carrying out all or any part of the planned research or having certain parts thereof carried out on their behalf and on their responsibility.

Article 10

The Signatories shall address their research proposals directly or through their competent public bodies to the Secretariat of the Committee.

Industrial undertakings and research establishments agreeing to associate for the purposes of carrying out a research project on a multinational basis shall freely negotiate between themselves the terms and conditions of their cooperation.

Article 11

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 12

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report, the sole purpose of which shall be to report on the results obtained, shall be much wider, embracing at least the industrial undertakings and research establishments concerned in the countries of the participants in this project.

Article 13

1. Without prejudice to the provisions of national laws, the Signatories shall insert in the research contracts clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

(a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property, but a Signatory concluding contracts which, in execution, give rise to such property rights, may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the State or body financing the research.

(b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the State or body financing the research.

(c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the Sig-

natories to manufacture or sell on the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

(i) where this is necessary in order to meet the individual requirements of the Signatory requesting the licence in the fields of public safety and public health;

(ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

2. The provisions of paragraph 1 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, etc.).

Article 14

The Signatories shall consult with each other, if

one of them so requests, on any problem arising out of the application of this Agreement.

Article 15

1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.

2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following receipt of the notification guaranteeing cover for at least two-thirds of the sum of the amounts provided for in Article 7.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 16

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addì ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

The research work carried out under the project will relate to materials designed for aircraft engines and turbines for use on land or at sea.

It should not include the direct development of new technological processes or entirely new materials, but should consist rather of studies of the properties and behaviour of the most advanced materials. Studies should yield practical results, such as increased knowledge of the possibilities for using the materials, recommendations as to improvements to the materials and processes, and the definition of test methods.

The subjects have been chosen to respond to the desire to commence cooperation on subjects of immediate practical importance, on lines likely to give concrete results within a reasonable period.

Research subjects

The programme set out below concerns nickel or cobalt-based alloys containing chrome and titanium alloys.

High-temperature corrosion and protective coatings

Detailed studies are required in order to give a better understanding of the mechanics of high-temperature corrosion phenomena and to enable selection of the most suitable test methods. They will enable a rational examination to be made of the prospects for improving protective coatings and, if possible, for increasing resistance to corrosion in the alloys themselves.

The work to be undertaken is not to relate specifically to air-filtration techniques or to inhibitory additives. Industrialists will nevertheless bear these techniques in mind when considering the aims of the research projects that they propose.

High-temperature metallurgical stability

The metallurgical stability of the most advanced alloys will be studied at high temperature; the effect of the stress applied will also be examined. The aim of these studies will be to obtain more detailed basic data with a view to improving the best existing alloys.

High-temperature fatigue

The work will be centred on the following two problems:

- (i) low-cycle fatigue, which may be the cause of breakages in turbine and compressor discs, and
- (ii) thermic fatigue, which is a frequent cause of cracking and breaking in turbine blades.

The studies will concentrate on the best available alloys and will be planned in such a way as to give a better knowledge of the phenomena involved. They should lead to the definition of appropriate test methods. It will be interesting to see whether there is a connection between high-temperature fatigue phenomena and the basic properties of the materials.

Corrosion of titanium under stress

Study of the chief problems associated with the tendency of titanium alloys to crack owing to corrosion under stress.

Metallurgical homogeneity and physical flaws in castings

Study of the effect on reliability of local heterogeneity of composition or microstructure. Examination of the possibilities for detecting such heterogeneity by non-destructive test methods.

The study of the origin of micro-cavities and micro-cracks in precision castings would greatly assist the future improvement of processes.

Metallurgical structures obtained by forging

Study of the effect of the structures obtained by forging on the mechanical properties of nickel, cobalt and titanium alloys.

Weldability of alloys

The physical quality of welded seams (micro-cracks), their mechanical properties and metallurgical structure will be studied. Special emphasis will be given to the weldability of precision-cast alloys.

Effect of working on reliability

Study of the metallurgical causes for the deterioration of fatigue characteristics, with particular reference to titanium rectifying and electro-chemical working.

Alloys with oriented structure

The mechanical properties of pieces produced by oriented solidification, the influence of the metallurgical structure, and the possibilities of adapting the composition of alloys in order to obtain the optimum properties in the products will be studied.

Pseudo-eutectic alloys with oriented structure

Study of the properties of materials at ambient and high temperatures. Research to find improved compositions.

Improved alloys produced by powder metallurgy

Study of the properties of nickel or cobalt-based alloys containing chrome obtained by powder metallurgy techniques. Study of the influence of the physical properties and the chemical composition of the powders.

Agreement on the implementation of a European concerted action project in the field of metallurgy on the topic 'Materials for gas turbines' (COST 50/51/52)¹

Date of entry into force: 1.7.1972

Duration: 30.6.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
ECSC	23.11.1971	²
EAEC	23. 5.1978	23.5.1978
Belgium	19.12.1973	4.3.1976
Germany (Fed. Rep. of)	23.11.1971	1.7.1972
France	23.11.1971	1.7.1972
Italy	23.11.1971	4.9.1974
Luxembourg	23.11.1971	9.2.1973
Netherlands	23.11.1971	9.4.1973
Austria	23.11.1971	9.8.1972
Switzerland	23.11.1971	1.7.1972
Sweden	23.11.1971	1.7.1972
United Kingdom	23.11.1971	1.7.1972

¹ Not published in the Official Journal.

² The ECSC never ratified this Agreement.

**Agreement
on the implementation of a European project
on pollution,
on the topic 'Sewage sludge processing'
(COST Project 68)**

Agreement
on the implementation of a European project
on pollution, on the topic
'Sewage sludge processing'

(COST Project 68)

The Governments of Denmark,
the Federal Republic of Germany,
the French Republic,
the Italian Republic,
the Kingdom of the Netherlands,
the Socialist Federal Republic of Yugoslavia,
the Kingdom of Norway,
the Swiss Confederation,
Sweden,
the United Kingdom of Great Britain
and Northern Ireland,

hereinafter referred to as 'the Signatories',

HAVE ACCEPTED participation in the project described below, hereinafter referred to as 'the project', and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project, which is being undertaken in order to compare the methods of processing and disposing of sewage sludge practised in different countries.

An outline description of the work envisaged for the project is contained in the Annex.

Research and development operations shall be carried out by means of work entrusted to public research establishments which agree to work in association on a multinational basis. Contracts may, however, be concluded between the Signatory or Signatories concerned, on the one hand, and industrial undertakings and other research establishments (private research centres, university institutes or joint centres) on the other.

Article 2

The duration envisaged for work on the project shall be two years, during which period Topic 3 shall be implemented by the Signatories concerned.

Article 3

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement, on condition that the annual sum allocated by new Signatories to work on the project is no less than 20 000 units of account.

Article 4

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory, is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up reasoned recommendations on the research proposals submitted to it, as well as on the direction and volume of the work envisaged. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

Article 5

The Committee shall:

- (a) address to the bodies concerned recommendations on the research which it deems necessary to carry out, and recommend the allocation of tasks among the Signatories;
- (b) encourage cooperation between partners from different countries;
- (c) follow the progress of the work and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;
- (d) publish, annually and at the end of the project, a report containing conclusions on the results of the operations covered by the project.

Article 6

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 7

The research outlay devoted to the work to be carried out under the project shall be divided as follows among the Signatories:

Signatories	Maximum annual contribution in UA
--------------------	--

Governments of	
Denmark	40 000
Federal Republic of Germany	51 000
French Republic	45 000 (for Topic 1 only)
Italian Republic	60 000
Kingdom of the Netherlands	30 000
Socialist Federal Republic of Yugoslavia	40 000
Kingdom of Norway	60 000
Swiss Confederation	120 000
Sweden	50 000
United Kingdom of Great Britain and Northern Ireland	20 000

In this context, each Signatory shall be responsible for financing the work carried out under this project on its initiative.

However, a financial contribution may be made by a Signatory towards work carried out upon the initiative of another Signatory on the basis of an agreement between them.

Any joint expenses shall be shared equally among the Signatories, with the exception of Secretariat expenses.

Article 8

Applications for the award of contracts pursuant to Article 1 may be submitted by industrial undertakings and research establishments, preferably working in association, which are capable of carrying out all or any part of the planned research or of having certain parts thereof carried out on their behalf and on their responsibility.

Article 9

The Signatories shall address to the Secretariat of the Committee the research proposals submitted to them.

Article 10

The Signatories shall be responsible for the administration and financial management of the contracts that they conclude.

Article 11

1. The information and industrial property rights which any Signatory has obtained from its own work in implementing this project shall remain the property of that Signatory in so far as it is entitled to them under its national legislation. It may make use of the information belonging to the other Signatories for its own requirements in the fields of public safety and public health.

The other Signatories shall be entitled, for the requirements defined in the preceding subparagraph, to a non-exclusive licence, free of charge, on the information and industrial property rights of any Signatory arising out of its work in implementing the project.

2. At the request of another Signatory, each Signatory shall grant non-exclusive licences on its information and industrial property rights referred to in paragraph 1, on fair and reasonable terms, having due regard to the financial contribution of the applicant Signatory, to undertakings established in the territory of the latter.
3. The Signatories shall not prevent the use of the information and industrial property rights referred to in paragraphs 1 and 2 on the terms set out in those paragraphs, by invoking against such use any prior property rights which they may possess.
4. Where under national law the information and industrial property rights do not belong exclusively to the Signatories, the latter undertake to grant each other, on the basis of the provisions of their national laws, licences with the possibility of granting sub-licences, in order to ensure that this Article is implemented effectively.

Article 12

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report shall be much wider; the details thereof shall be decided by the Committee.

Article 13

Without prejudice to the provisions of national laws, the Signatories shall insert in the study contracts and the research and development contracts clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

1. As regards the separately financed work:

- (a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property; but a Signatory concluding contracts which, in execution, gave rise to such property rights, may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the Signatories to which the bodies relate.

- (b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the Signatories to which the bodies relate.

- (c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the Sig-

natories to manufacture or sell on the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary, in order to meet the needs of the Signatory requesting the licence in the fields listed in Article 11 (1) first subparagraph;
- (ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

- 2. As regards the jointly financed work, the provisions set out in point 1 shall be applicable, subject to the following: in the event of one of the Signatories acting as the agent for the other Signatories, the rights which it may reserve, in accordance with point 1 (a), shall extend to the other Signatories.
- 3. The provisions set out in points 1 and 2 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, etc.).

Article 14

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 15

- 1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.
- 2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following the date on which the majority of the Signatories have transmitted these notifications.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

- 3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in the paragraph 1 and of the date of entry into force of this Agreement.

Article 16

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addi' ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

1. Definition of the project

The assessment of methods of processing and disposing of sewage sludge by the comparative evaluation, using standardized criteria, of existing plants of industrial scale in different countries.

In order to carry out the proposed comparative evaluations there must be uniform methods of determining the character and properties of sewage sludges. Such harmonization is essential before any progression to field work. Consequently, the first part of the project will consist of laboratory work, which will allow agreement to be reached on which of the existing methods of characterization are to be adopted. This first stage will be followed by further laboratory work on the improvement of sludge characterization methods.

2. Proposed research

The following topics will be covered:

(a) Laboratory work

Adoption of a method for international use (Topic 1). Joint laboratory work on the improvement of the existing methods (Topic 2). The characteristics to be investigated under these topics are:

- (i) calorific value;
- (ii) granulometric analysis;
- (iii) specific resistance to filtration coupled with determination of colloidal structure and state of water binding;
- (iv) rheological properties, to include measurements of viscosity and cohesion;
- (v) centrifugability.

(b) Field work

The evaluation of industrial plants for the combined incineration of sludges and household refuse (Topic 3). These plants include two types of incinerator. In the first, sludges and refuse are burnt together in the same combustion chamber, by a technique termed 'single incineration', whereas in the second type of incinerator the two types of waste are burnt in separate plants on the same site, heat being transferred from the refuse incinerator to the sludge incinerator. This latter method is termed 'side by side' incineration.

The methods and criteria for evaluation will have to be closely defined to ensure an objective comparison. Two means could be employed. The operating records over a period of, say, one year would be kept in accordance with a uniform scheme such as that laid down in Annex I to COST/100/2/71 Rev. 2. It may prove necessary for additional measuring and recording equipment to be installed at existing installations in order to provide all the stipulated data. Additionally, on at least one occasion during the year, there will be a complete 24-hour survey of the plant performance and in particular of its thermal balance.

3. Financial requirements for the implementation of the project

Topic 1:

Standardization of existing sewage sludge characterization methods

Duration: 1 year

Each laboratory employing 1 man for $\frac{1}{2}$ year at 40 000 UA

Ten countries have expressed willingness to participate
= 5 man years at 40 000 UA 200 000 UA

Topic 2:

Improvement of existing sewage sludge characterization methods

Duration: 1 year

Each laboratory employing 1 man at 40 000 UA p.a.

Ten countries have expressed willingness to participate

= 10 man years at 40 000 UA 400 000 UA

Topic 3:

Evaluation of combined sludge-refuse incineration plants

Duration: 1 year

Six plants to be investigated

Long-term records at 10 000 UA per plant = 60 000 UA

Two intensive examinations per plant at 15 000 UA each = 180 000 UA

240 000 UA

840 000 UA

**Agreement on the implementation of a European project on pollution, on the topic
'Sewage sludge processing' (COST 68)¹**

Date of entry into force: 1.8.1972

Duration: 1.8.1974

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	19.12.1973	4.3.1976
Germany (Fed. Rep. of)	23.11.1971	1.8.1972
France	23.11.1971	1.8.1972
Italy	23.11.1971	4.9.1974
Netherlands	23.11.1971	9.4.1973
Denmark	23.11.1971	1.8.1972
Yugoslavia	23.11.1971	2.2.1973
Norway	23.11.1971	1.8.1972
Switzerland	23.11.1971	1.8.1972
Finland	16. 6.1972	12.4.1973
Sweden	23.11.1971	1.8.1972
Turkey	12.10.1973	²
United Kingdom	23.11.1971	1.8.1972

¹ Not published in the Official Journal.

² Turkey has not ratified this Agreement.

Agreement
on the implementation of a European concerted action project
in the field of metallurgy
on the topic 'Materials
for desalination plants'

(COST Project 53)

**Agreement
on the implementation of a European concerted action project
in the field of metallurgy
on the topic 'Materials
for desalination plants'**

(COST Project 53)

The Governments of the Federal Republic of Germany,
Spain,
the French Republic,
the Italian Republic,
the Kingdom of the Netherlands,
the Socialist Federal Republic of Yugoslavia,
the Republic of Austria,

hereinafter referred to as 'the Signatories',

HAVE ACCEPTED participation in the project described below, hereinafter referred to as 'the project', and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project, which is being undertaken in order to stimulate research and development in the field of metallurgy on the topic 'Materials for desalination plants'. An outline description of the work envisaged for this project is contained in the Annex.

The aim of the project is to stimulate the carrying out of coordinated research and development operations on the above topic by means of contracts between the competent public bodies on the one hand and industrial firms and research establishments (public or private research centres, university centres and joint centres), on the other, or by entrusting work to government research establishments which agree to work in association on a multinational basis.

Article 2

The duration envisaged for work on the project shall be a period not exceeding three years, unless

otherwise determined unanimously by the Signatories.

Article 3

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement on condition that the annual sum allocated by new Signatories to work on the project is no less than 40 000 units of account.

Article 4

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory, is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up reasoned recommendations based on the research proposals submitted to it. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

Article 5

The Committee shall:

- (a) invite industrial undertakings and research establishments to submit research proposals, preferably on a multinational basis, on the subject of the project;
- (b) examine the research proposals submitted by industrial undertakings and research establishments;
- (c) recommend the allocation of research tasks among the industrial undertakings and research establishments and address to the bodies concerned recommendations on the proposed contracts which, in its view, should be adopted, as well as on the duration of these contracts;
- (d) promote associations between partners from different countries;
- (e) follow the progress of the work and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;
- (f) draw up programme proposals for any extension of the work beyond the expiry of this Agreement;
- (g) publish an annual progress report.

All matters dealt with by the Committee shall be kept confidential.

Article 6

At the request of the Signatories, the Secretariat of the Management Committee shall be provided by the Commission of the European Communities.

Article 7

The research outlay devoted to the work to be carried out under the project shall be divided as follows among the Signatories:

Signatories	Maximum annual contributions in UA
Governments of	
Federal Republic of Germany	200 000
Spain	40 000
French Republic	200 000
Italian Republic	100 000
Kingdom of the Netherlands	80 000
Socialist Federal Republic of Yugoslavia	50 000
Republic of Austria	80 000

These amounts include both contributions from public funds and those made by industrial undertakings and their research establishments.

Any joint expenses shall be shared equally among the Signatories, with the exception of Secretariat costs.

Article 8

The financial contribution of each Signatory to be supplied out of public funds shall not, in principle, exceed 60% for each contract in the case of contracts concluded with industrial undertakings or their research centres, and 75% in the case of contracts concluded with other research establishments. These provisions shall not apply to research organizations financed entirely or chiefly by public authorities.

The Signatories shall, if they so desire, have the opportunity to make provision in their contracts for a total or partial refund of their contributions by the State if the research is successful.

Article 9

Applications for the award of contracts may be submitted by industrial undertakings and research establishments, preferably working in association, which are capable of carrying out all or any part of the planned research or having certain parts thereof carried out on their behalf and on their responsibility.

Article 10

The Signatories shall address their research proposals directly or via their competent public bodies to the Secretariat of the Committee.

Industrial undertakings and research establishments agreeing to associate for the purposes of carrying out a research project on a multinational basis shall freely negotiate between themselves the terms and conditions of their cooperation.

Article 11

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 12

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report, the sole purpose of which shall be to report on the results obtained, shall be much wider, embracing at least the industrial undertakings and research establishments concerned in the countries of the participants in this project.

Article 13

1. Without prejudice to the provisions of national laws, the Signatories shall insert in the research contracts, clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

(a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property, but a Signatory concluding contracts which, in execution, gave rise to such property rights, may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research

centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the State or body financing the research.

(b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the State or body financing the research.

(c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the Signatories to manufacture or sell on the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary in order to meet the individual requirements of the Signatory requesting the licence in the fields of safety and public health;
- (ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

2. The provisions of paragraph 1 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, etc.).

Article 14

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 15

1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.

2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following receipt of the notification guaranteeing cover for at least two-thirds of the sum of the amounts provided for in Article 7.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 16

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addì ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

The materials to be covered by the research programme described below are intended for desalination plants operating by distillation for which the needs are most clearly defined. The operating temperatures to be envisaged are not to exceed 120°C. Above this temperature difficult problems result from scaling and the mechanical resistance of various structures in the plant.

Research work will be planned to take into account the economic operational limits of the plants (e.g. maximum speeds) and the possibilities for pre-treating the water. The programme is not to include specific studies on the chemistry of water apart from the observations made in the plants as provided for in point 3.

Research subjects (in the adopted order of priorities)

1. Low-percentage steel alloys

Study of the properties of low-percentage steel alloys (containing aluminium, chromium, etc.) with very high resistance to corrosion by hot sea-water (formation of a protective film of adherent oxide) which could be suitable for use as building materials for desalination plants. The cost of such steels should be less than double the cost of carbon steels.

If good steels are developed in the course of this programme, they will be tested in existing experimental installations.

2. Copper alloys

Study of the possibilities of improving the resistance of low-cost copper alloys to corrosion-erosion in normal sea-water and more particularly in polluted sea-water (sulphide and ammonia content). Testing of the best alloys in existing experimental buckles.

3. Study of the in-service behaviour of exchanger tubes in large desalination plants

This study will be carried out in plants to be specified.

The aims of the study are to determine the properties of the water in the plant, to measure corrosion rates and to identify the causes of breaking or piercing in the tubes.

4. Concrete

Study of the optimum conditions for the use of improved concrete in the construction of large plants (reinforced concrete, prestressed concrete).

Study of some important properties such as resistance to hot water, resistance to erosion, behaviour and protection of armatures. Construction of models of a scale sufficient for significant testing.

Study of polymer concrete with a view to collecting the technical data required for designing plant using these materials.

5. Protective coatings for construction steel

The aims of the studies are:

- (i) to define the nature of the adherence of coatings to steel pieces and the factors which affect this adherence;
- (ii) to obtain data on the properties (in particular porosity and permeability) of the best available coatings and their development over a period of time;
- (iii) to develop suitable quality-control methods.

An experimental installation should be built for studying the reliability of the coatings in simulated conditions of operation.

Agreement on the implementation of a European concerted action project in the field of metallurgy on the topic 'Materials for desalination plants' (COST 53)¹

Date of entry into force: 1.11.1972

Duration: 1.11.1975

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	18.12.1973	4.3.1976
Germany (Fed. Rep. of)	23.11.1971	1.11.1972
France	23.11.1971	1.11.1972
Italy	23.11.1971	4.9.1974
Luxembourg	5.7.1973	31.7.1975
Netherlands	23.11.1971	1.11.1972
Spain	23.11.1971	1.11.1972
Yugoslavia	23.11.1971	1.11.1972
Austria	23.11.1971	1.11.1972
United Kingdom	16.6.1972	1.11.1972

¹ Not published in the Official Journal.

Agreement
on the implementation of a European project
on pollution, on the topic 'Research into
the physico-chemical behaviour of SO₂
in the atmosphere'

(COST Project 61a)

**Agreement
on the implementation of a European project
on pollution, on the topic 'Research into
the physico-chemical behaviour of SO₂
in the atmosphere'**

(COST Project 61a)

The Governments of Denmark,
the Federal Republic of Germany,
Spain,
the French Republic,
the Kingdom of Greece,
the Italian Republic,
the Kingdom of the Netherlands,
the Socialist Federal Republic of Yugoslavia,
the Republic of Austria,
the United Kingdom of Great Britain and Northern Ireland, and

the European Coal and Steel Community,

hereinafter referred to as 'the Signatories',

HAVE ACCEPTED participation in the project described below, hereinafter referred to as 'the project', and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project which consists of research work on the physico-chemical behaviour of sulphur dioxide in the atmosphere. An outline description of the work envisaged for the project is contained in the Annex.

Research operations shall be carried out chiefly by means of work entrusted to public research establishments which agree to work in association on a multinational basis. Contracts may, however, be concluded between the Signatory or Signatories concerned, on the one hand, and industrial undertakings and other research establishments (private research centres, university institutes or joint centres) on the other.

Article 2

The duration envisaged for work on the project shall be five years.

Article 3

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement, on condition that the annual sum allocated by new Signatories to work on the project is no less than 20 000 units of account.

Article 4

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory, is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up reasoned recommendations on the research proposals submitted to it, as well as on the direction and volume of the work envisaged. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

Article 5

The Committee shall:

- (a) address to the bodies concerned recommendations on the research which it deems necessary to carry out, and recommend the allocation of tasks among the Signatories;
- (b) encourage cooperation between partners from different countries;
- (c) follow the progress of the work and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;
- (d) publish, annually and at the end of the project, a report containing conclusions on the results of the operations covered by the project.

Article 6

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 7

The research outlay devoted to the work planned for the project shall be divided as follows among the Signatories:

Signatories

Annual maximum amount in UA

Governments of	
Denmark	40 000
Federal Republic of Germany	40 000
Spain	20 000
French Republic	40 000
Kingdom of Greece	20 000
Italian Republic	40 000
Kingdom of the Netherlands	40 000
Socialist Federal Republic of Yugoslavia	60 000
Republic of Austria	40 000
United Kingdom of Great Britain and Northern Ireland	115 000
European Coal and Steel Community	60 000

In this connection, each Signatory shall be responsible for financing operations under the project in respect of work carried out on its initiative.

However, a financial contribution may be made by a Signatory towards work carried out upon the initiative of another Signatory on the basis of an agreement between them.

Any joint expenses shall be shared equally among the Signatories, with the exception of Secretariat expenses.

Article 8

Applications for the award of contracts pursuant to Article 1 may be submitted by industrial undertakings and research establishments, preferably working in association, which are capable of carrying out all or any part of the planned research or of having certain parts thereof carried out on their behalf and on their responsibility.

Article 9

The Signatories shall address to the Secretariat of the Committee the research proposals submitted to them.

Article 10

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 11

1. The information and industrial property rights which any Signatory has obtained from its own work in implementing this project shall remain the property of that Signatory in so far as it is entitled to them under its national legislation. It may make use of the information belonging to the other Signatories for its own requirements in the fields of public safety and public health.

The other Signatories shall be entitled, for the requirements defined in the preceding subparagraph, to a non-exclusive licence, free of charge, on the information and industrial property rights of any Signatory, arising out of its work in implementing this project.

2. At the request of another Signatory, each Signatory shall grant non-exclusive licences on its information and industrial property rights referred to in paragraph 1, on fair and reasonable terms, to undertakings established in the territory of the former.
3. The Signatories shall not prevent the use of the information and industrial property rights referred to in paragraphs 1 and 2 on the terms set out in those paragraphs, by invoking against such use any prior property rights which they may possess.
4. Where under national law the information and industrial property rights do not belong exclusively to the Signatories, the latter undertake to grant each other, on the basis of the provisions of their national laws, licences with the possibility of granting sub-licences, in order to ensure that this Article is implemented effectively.

Article 12

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report shall be much wider; the details thereof shall be decided by the Committee.

Article 13

Without prejudice to the provisions of national laws, the Signatories shall insert in the study contracts and the research and development contracts, clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

1. As regards the separately financed work:

- (a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property, but a Signatory concluding contracts which, in execution, gave rise to such property rights may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the Signatories to which the bodies relate.

- (b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the Signatories to which the bodies relate.

- (c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the

Signatories to manufacture or sell on the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary in order to meet the needs of the Signatory requesting the licence in the fields listed in Article 11 (1), first subparagraph;
- (ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

2. As regards the jointly financed work, the provisions set out in point 1 shall be applicable subject to the following: in the event of one of the Signatories acting as the agent for the other Signatories, the rights which it may reserve, in accordance with point 1 (a), shall extend to the other Signatories.
3. The provisions set out in points 1 and 2 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, etc.).

Article 14

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 15

1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.
2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following the date on which the majority of the Signatories have transmitted these notifications.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 16

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addì ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

1. Definition of the project

The project is concerned with the clarification of the physico-chemical behaviour of sulphur dioxide in the atmosphere. The term 'physico-chemical behaviour' is taken to mean all the reactions occurring in the atmosphere which lead to a change in the state of sulphur dioxide or in the course of which sulphur dioxide undergoes a chemical transformation which decisively influences its further behaviour or the behaviour of its reaction products.

2. Proposed research

The topics are as follows:

- (1) Research into the natural mechanism for removing sulphur compounds from the atmosphere, washout, adsorption on surfaces such as soil, vegetation, etc. Research on vertical profiles of sulphur dioxide and sulphuric acid in the atmosphere.

This topic can provide fundamental information on damage to living organisms, corrosion of materials, acidification of soil and water and the lifetime of sulphur dioxide in the atmosphere.

- (2) Development of measuring methods and techniques for the determination of sulphuric acid, sulphates and the total acidity in the atmosphere.

These studies are essential for the solution of the problems referred to in the preceding item. They will also provide information required for a more accurate assessment of the health risks caused by sulphuric acid and, in conjunction with the research referred to in (1), they will be of assistance in the definition of air quality criteria.

- (3) A more intensive exchange of information and results of research in this field, including those already undertaken by participating countries by organizing meetings and exchanging scientists.

3. Financial requirements for the implementation of the project

A sum of 260 000 units of account per annum for four years is considered necessary for the implementation of the proposals set out above.

This sum includes the cost of supporting a total of six research teams (the cost of maintaining each team being equivalent to that of maintaining one professional scientist).

The annual cost of a research team for Topics 1 and 2 is estimated at 40 000 units of account and that arising from Topic 3 at 20 000 units of account.

The scope of the project may be widened by increasing the number of teams provided for in item 3 and, consequently, the sum of the amounts provided for in Article 7 of the Agreement.

**Agreement on the implementation of a European project on pollution,
on the topic 'Research into the physico-chemical behaviour of SO₂
in the atmosphere' (COST 61a)¹**

Date of entry into force: 1.11.1972

Duration: 1.11.1976

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
ECSC	23.11.1971	1.11.1972
Belgium	19.12.1973	4.3.1976
Germany (Fed. Rep. of)	23.11.1971	1.11.1972
France	23.11.1971	1.11.1972
Italy	23.11.1971	4.9.1974
Netherlands	23.11.1971	9.4.1973
Denmark	23.11.1971	1.11.1972
Greece	23.11.1971	1.11.1972
Spain	23.11.1971	1.11.1972
Yugoslavia	23.11.1971	2.2.1973
Austria	23.11.1971	1.11.1972
United Kingdom	23.11.1971	1.11.1972

¹ Not published in the Official Journal.

Agreement
on the implementation of a European project
on pollution, on the topic
'Analysis of organic micropollutants in water'
(COST Project 64b)

Agreement
on the implementation of a European project
on pollution, on the topic
‘Analysis of organic micropollutants in water’

(COST Project 64b)

The Governments of Denmark,
the Federal Republic of Germany,
Spain,
the French Republic,
Ireland,
the Italian Republic,
the Kingdom of the Netherlands,
the Socialist Federal Republic of Yugoslavia,
the Kingdom of Norway,
the Republic of Portugal,
the Swiss Confederation,
the United Kingdom of Great Britain and Northern Ireland, and

the European Economic Community,

hereinafter referred to as ‘the Signatories’,

HAVE ACCEPTED participation in the project described below, hereinafter referred to as ‘the project’, and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project, which is being undertaken in order to develop the most comprehensive possible techniques for detecting and determining organic micropollutants in water. An outline description of the work envisaged for this project is contained in the Annex.

Research and development operations shall be carried out chiefly by means of work entrusted to public research establishments which agree to work in association on a multinational basis. Contracts may, however, be concluded between the Signatory or Signatories concerned, on the one hand, and industrial undertakings and other re-

search establishments (private research centres, university institutes or joint centres), on the other.

Article 2

The duration envisaged for work on the project shall be a period not exceeding three years.

Article 3

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the

Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement, on condition that the annual sum allocated by new Signatories to work on the project is no less than 40 000 units of account.

Article 4

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory, is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up reasoned recommendations on the research proposals submitted to it, as well as on the direction and volume of work envisaged. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

Article 5

The Committee shall:

- (a) address to the bodies concerned recommendations on the research which it deems necessary to carry out, and recommend the allocation of tasks among the Signatories;
- (b) encourage cooperation between partners from different countries;
- (c) follow the progress of the work and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;
- (d) publish, annually and at the end of the project, a report containing conclusions on the results of the operations covered by the project.

Article 6

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 7

The research outlay devoted to the work to be carried out under the project shall be divided as follows among the Signatories:

Signatories	Maximum annual contribution in UA
Governments of	
Denmark	40 000
Federal Republic of Germany	130 000
Spain	80 000
French Republic	130 000
Ireland	40 000
Italian Republic	130 000
Kingdom of the Netherlands	40 000
Socialist Federal Republic of Yugoslavia	125 000
Kingdom of Norway	40 000
Republic of Portugal	80 000
Swiss Confederation	80 000
United Kingdom of Great Britain and Northern Ireland	160 000
European Economic Community	174 000

In this connection, each Signatory shall be responsible for financing operations under the project in respect of work carried out on its initiative.

However, a financial contribution may be made by a Signatory towards work carried out on the initiative of another Signatory on the basis of an agreement between them.

Any joint expenses shall be shared equally among the Signatories, with the exception of Secretariat expenses.

Article 8

Applications for the award of contracts pursuant to Article 1 may be submitted by industrial undertakings and research establishments, preferably working in association, which are capable of carrying out all or any part of the planned research

or of having certain parts thereof carried out on their behalf and on their responsibility.

Article 9

The Signatories shall address to the Secretariat of the Committee the research proposals submitted to them.

Article 10

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 11

1. The information and industrial property rights which any Signatory has obtained from its own work in implementing this project shall remain the property of that Signatory in so far as it is entitled to them under its national legislation. It may make use of the information belonging to the other Signatories for its own requirements in the fields of public safety and public health.

The other Signatories shall be entitled, for the requirements defined in the preceding subparagraph, to a non-exclusive licence, free of charge, on the information and industrial property rights of any Signatory, arising out of its work in implementing this project.

2. At the request of another Signatory, each Signatory shall grant non-exclusive licences on its information and industrial property rights referred to in paragraph 1, on fair and reasonable terms, to undertakings established in the territory of the former.
3. The Signatories shall not prevent the use of the information and industrial property rights referred to in paragraphs 1 and 2 on the terms set out in those paragraphs, by invoking against such use any prior property rights which they may possess.
4. Where under national law the information and industrial property rights do not belong exclusively to the Signatories, the latter undertake to grant each other, on the basis of the provisions of their national laws, licences with the possibility of granting sub-licences, in order to ensure that this Article is implemented effectively.

Article 12

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report, shall be much wider; the details thereof shall be decided by the Committee.

Article 13

Without prejudice to the provisions of national laws, the Signatories shall insert in the study contracts, and the research and development contracts, clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

1. As regards the separately financed work:

(a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property, but a Signatory concluding contracts which, in execution, gave rise to such property rights may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the Signatories to which the bodies relate.

(b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant li-

cences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the Signatories to which the bodies relate.

(c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the Signatories to manufacture or sell in the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary in order to meet the needs of the Signatory requesting the licence in the fields listed in Article 11 (1), first subparagraph;
- (ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

2. As regards the jointly financed work, the provisions set out in point 1 shall be applicable, subject to the following: in the event of one of the Signatories acting as the agent for the other Signatories, the rights which it may reserve, in accordance with point 1 (a), shall extend to the other Signatories.
3. The provisions set out in points 1 and 2 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, etc.).

Article 14

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 15

1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.
2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following the date on which the majority of the Signatories have transmitted these notifications.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 16

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addì ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

1. Definition of the project

Development of methods for analysing as completely as possible the organic pollutants present in a sample of water. The method should cover the whole range of organic constituents and enable them to be identified and their concentration to be determined to stated limits of detection.

It is hoped (and this is the chief aim of the project), that a 'multidetector' combination of instruments can be developed, and in considering the various possible approaches to the development of such a unit, a method based on gas chromatographic separation is considered the most promising. This method has the advantage that it requires only small quantities of equipment and that the separated compounds are in a form suitable for examination by a variety of sensitive and selective detectors, including a mass spectrometer.

2. Proposed research

The planned project has been divided up into a number of topics as follows:

I. Establishment of reference data (section 1)

- (a) List of the micropollutants present or suspected in polluted waters;
- (b) Collection of existing data (MS, IR, NMR spectra, GC data);
- (c) Chemical preparation of reference pollutants (including metabolites) to be used for physico-chemical measurements;
- (d) Physico-chemical measurements on reference pollutants.

II. Analytical unit

- (a) Sampling and sample treatment (section 2);
- (b) Techniques for separation and detection (section 3);
- (c) MS-GC coupling (section 4);
- (d) Evaluation of MS-GC coupling (mode and parameters) (section 5).

III. Data processing (section 6)

- (a) Hardware;
- (b) Software.

3. Financial requirements and implementation of the project

Working on the assumption that the project will take three years, the following expenses may be estimated:

I. Establishment of reference data	1 200 000 UA
II. Analytical unit	
(a) Sampling and treatment	880 000 UA
(b) Separation and detection techniques	93 000 UA
(c) MS-GC coupling	130 000 UA
(d) MS-GC operation	300 000 UA
III. Data processing	400 000 UA
	<hr/>
	3 003 000 UA

For the purposes of carrying out the work, there are plans for laboratories ensuring coordination at international level for five of the six main sections of the project, together with the national laboratories willing to coordinate work inside their own countries for each of the sections.

Moreover, work on data processing will be deferred for at least one year, and the coordinating laboratory for section 6 will not be nominated, nor will a detailed programme be drawn up while the other topics are in progress.

**Agreement on the implementation of a European project on pollution, on the topic
'Analysis of organic micropollutants in water' (COST 64b)¹**

Date of entry into force: 1.11.1972

Duration: 1.11.1975

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Germany (Fed. Rep. of)	23.11.1971	1.11.1972
France	23.11.1971	1.11.1972
Ireland	23.11.1971	12.12.1972
Italy	23.11.1971	4.9.1974
Netherlands	23.11.1971	9.4.1973
Denmark	23.11.1971	1.11.1972
Spain	23.11.1971	1.11.1972
Yugoslavia	23.11.1971	2.2.1973
Norway	23.11.1971	1.11.1972
Portugal	23.11.1971	22.12.1972
Switzerland	23.11.1971	1.11.1972
United Kingdom	23.11.1971	1.11.1972

¹ Not published in the Official Journal.

Agreement
on the establishment of a
European informatics network

(COST Project 11)

Agreement on the establishment of a European informatics network

(COST Project 11)

The Governments of the French Republic,
the Italian Republic,
the Socialist Federal Republic of Yugoslavia,
the Kingdom of Norway,
the Republic of Portugal,
the Swiss Confederation,
Sweden,
the United Kingdom of Great Britain
and Northern Ireland, and

the European Atomic Energy Community (Euratom),

hereinafter referred to as 'the Signatories',

HAVE ACCEPTED participation in the project described below, hereinafter referred to as 'the project', and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project which is being undertaken in order to establish an informatics network linking certain European data-processing centres, in order to facilitate research into methods of exchanging information and to share data-processing facilities among such centres. An outline description of the work envisaged for the project is contained in the Annex.

The studies and research shall be carried out either in the research centres of the Signatories or by means of contracts concluded by the latter with research organizations or industrial undertakings.

Article 2

The duration envisaged for work on the project shall be five years, subject to the conditions contained in the Annex.

Any Signatory may terminate its participation, provided that six months' notice is given to all the other Signatories. Such notice may be given only after the expiry of a period of two years.

In the event of successive or simultaneous withdrawal by several participants, the Signatories shall, if one of them so requests, consult as to the continuation or termination of the project.

Article 3

1. The Signatories shall participate in the project:

- (a) by following technical progress;
- (b) by each designating, in addition, a non-profit-making centre, to be termed a 'nodal centre', established in its territory, which shall form part of the initial network.

2. The following shall participate in the project in accordance with paragraph 1 (a):

the Governments of

the Socialist Federal Republic of Yugoslavia,

the Kingdom of Norway,

the Republic of Portugal,

Sweden.

3. The following shall participate in the project in accordance with paragraph 1 (b):

the Governments of

the French Republic,

the Italian Republic,

the Swiss Confederation,

the United Kingdom of Great Britain and Northern Ireland,

the European Atomic Energy Community (Euratom).

The sites of the nodal centres for the initial network shall be stated by these Signatories, at the latest before the network study contract, as defined in the annex, is placed.

Article 4

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement.

Article 5

1. A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory and an observer from the European Conference of Postal and Telecommunications Administrations (CEPT), is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

2. Each representative shall have one vote in the Committee. The Committee shall take decisions concerning procedure by a simple majority.

As regards all jointly financed work involving the award of contracts, the Signatories shall entrust a mandate to the Commission of the European Communities to administer such activities. The award of contracts constituting a significant entity and requiring a total sum in excess of 25 000 units of account shall be made by the mandated Signatory after the confirmation of the Committee acting by a majority of two-thirds of the Signatories, including the unanimity of the Signatories referred to in Article 3, paragraph 1 (b); however, the absence of or abstention by one or more of the latter Signatories shall not preclude unanimity.

In addition, the Committee shall, voting by a simple majority of the Signatories, including no less than the majority of the Signatories referred to in Article 3, paragraph 1 (b), take all decisions concerning activities whose coordination is necessary for the success of the project. It shall, in particular:

- (a) appoint the Executive Director and may delegate to him all or part of its powers;
- (b) determine the location of the bodies envisaged for the purpose of carrying out this project;
- (c) lay down the methods for awarding contracts;
- (d) supervise the progress of work;
- (e) lay down the terms on which, throughout the course of the project,
 - (i) the Signatories referred to in Article 3, paragraph 1 (a), may participate in the continued implementation of the project, using a nodal centre established on their territories;
 - (ii) the Signatories referred to in Article 3, paragraph 1 (b), may designate other nodal centres operating under their responsibility.

The centres so designated may be profit-making.

The Committee shall draw up reasoned recommendations on all the other activities relating to the achievement of the project. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

3. The Committee shall, at the end of the project, draw up a report containing conclusions as to the outcome of the experiment and transmit it to the Signatories.

4. All matters dealt with by the Committee shall be kept confidential.

Article 6

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 7

The total cost of the work to be carried out under the project is estimated at:

- (i) 1.4 million units of account in respect of the network study costs and administrative costs of implementing the project; these costs to be divided equally among all the Signatories;
- (ii) 0.710 million units of account per nodal centre in respect of equipment and operational costs, these costs to be borne by each of the Signatories referred to in Article 3, paragraph 1 (b), in respect of the work carried out on its initiative.

Article 8

Each of the Signatories referred to in Article 3, paragraph 1 (b), shall be responsible, *vis-à-vis* the other participants, for making use of the software prepared and for operating its own installations.

Article 9

The Signatories shall address to the Secretariat of the Committee the research proposals submitted to them.

Article 10

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 11

1. The information and industrial property rights which any Signatory has obtained from its own work in implementing this project shall remain the property of that Signatory in so far as it is entitled to them under its national legislation. It may make use of the information belonging to the other Signatories for its own requirements in the fields of public safety and public health and for the re-

quirements of its Administration in the field of informatics or of the informatics network.

The other Signatories shall be entitled, for the requirements defined in the preceding subparagraph, to a non-exclusive licence, free of charge, on the information and industrial property rights of any Signatory arising out of its work in implementing this project.

2. At the request of another Signatory, each Signatory shall grant non-exclusive licences on its information and industrial property rights referred to in paragraph 1, on fair and reasonable terms, to undertakings established in the territory of the former.
3. The Signatories shall not prevent the use of the information and industrial property rights referred to in paragraphs 1 and 2 on the terms set out in those paragraphs, by invoking against such use any prior property rights which they may possess.
4. Where under national law the information and industrial property rights do not belong exclusively to the Signatories, the latter undertake to grant each other, on the basis of the provisions of their national laws, licences with the possibility of granting sub-licences, in order to ensure that this Article is implemented effectively.

Article 12

The industrial undertakings and research establishments associated in a study project or a research and development project shall establish the procedure to be followed in exchanging the information necessary for carrying out the work which has been entrusted to them, together with the results of that work. They shall in particular determine their respective rights concerning the use of the software, hardware, know-how and industrial property rights resulting from their joint work and the terms on which they are to make other acquired relevant information and industrial property rights available to each other.

Article 13

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report, the sole purpose of which shall be to report on the results obtained, shall be much wider, embracing at least the industrial undertakings and research establishments concerned in the countries of the participants in this project.

The Signatories shall be at liberty to use the results of the studies and of the research and development work contained in the reports for the requirements defined in Article 11 (1), first subparagraph. The industrial undertakings or research establishments which obtained these results may use them for industrial or commercial purposes, but not for those of a competing project.

Article 14

Without prejudice to the provisions of national laws, the Signatories shall insert in the study contracts and the research and development contracts, clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

1. As regards the separately financed work:

(a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property; but a Signatory concluding contracts which, in execution, give rise to such property rights, may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the Signatories to which the bodies relate.

(b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property

rights, it being his responsibility to inform the Signatories of such an intention through the agency of the Signatories to which the bodies relate.

(c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the Signatories to manufacture or sell in the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary in order to meet the needs of the Signatory requesting the licence in the fields listed in Article 11 (1), first subparagraph;
- (ii) where marketing requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property

rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

2. As regards the jointly financed work, the provisions set out in point 1 shall be applicable, subject to the following: in the event of one of the Signatories acting as the agent for the other Signatories, the rights which it may reserve, in accordance with point 1 (a), shall extend to the other Signatories.
3. The provisions set out in points 1 and 2 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, software, etc.).

Article 15

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 16

1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.
2. For the Signatories which have transmitted the notification provided for in paragraph 1,

this Agreement shall enter into force on the first day of the second month following the date on which at least two-thirds of the Signatories have transmitted these notifications, including the notification of at least three of the Signatories referred to in Article 3, paragraph 1(b).

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 17

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addì ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

Purpose of the network

The European informatics network will have three main functions:

- (1) to facilitate the exchange of ideas between the computer centres which it links, and associated centres and the development of coordinated research programmes;
- (2) to provide a forum for the discussion and comparison of schemes now being proposed for national networks, and to promote the definition of European standards for the exchange of information between computers;
- (3) to provide a potential model for future networks, whether for commercial or other purposes, and to minimize incompatibilities between data-processing systems now at the planning stage.

At the end of the project the knowledge acquired should be suitable for the purpose of determining the feasibility and viability of a permanent international network suitable for commercial purposes, while the hardware and software developed during the project could subsequently form the basis for such a network.

Description of work

The total amount of work to be carried out in the course of the project may be divided into the following activities:

- (a) design, construction and testing of a prototype standard network nodal centre;
- (b) definition of a network control language;
- (c) drawing up of a coordinated research programme designed to test the network;
- (d) installation of standard nodal centres at locations designated by the Signatories referred to in Article 3, paragraph 1(b) of the Agreement;
- (e) interconnection of nodal centres and operation of the pilot network;
- (f) carrying-out of the coordinated research programme.

The first two items will be carried out under contract by commercial undertakings in accordance with the specifications prepared by the study group on the project. These commercial undertakings will also be responsible for the installation and efficient operation of the standard nodal centres. However, each nodal centre will be responsible for its own hardware and software.

The coordination research programme will be drawn up, principally, by representatives from the nodal centres, taking into account all the proposals that may be made and, if necessary, inviting representatives from other bodies. At first the research programme will involve only the nodal centres initially designated but it will be extended subsequently to any new nodal centres which may be added to the pilot network once it is operating in a satisfactory manner, and to any other secondary centres that may be linked to any of the nodal centres.

Organization for implementation

A permanent executive body will be established for the duration of the project: the Director of this body will be appointed by the Management Committee. This Executive Director will be assisted by a Secretariat and three experts, one specializing in hardware, one in software and one in telecommunications: these experts will be appointed by the Management Committee on a proposal from the Executive Director. The executive body will supervise day-to-day progress of all work on the project and will take all the technical decisions necessary to achieve the aims set by the Management Committee.

A technical advisory group composed of representatives from the nodal centres, specialists designated by the Signatories and an observer from the CEPT will be formed. Each member of this advisory group will bear the subsistence and travelling expenses that he or she incurs as a result of serving on it. Its chairman will be the Director of the executive body, and it will advise the executive body on technical matters and coordinate work in the centres. It will therefore have to be set up right at the beginning of the project.

The technical advisory group will as early as possible draw up a coordinated research programme for testing the network. In particular, it will consider the sources and nature of data to be used on the experimental network. It will present its conclusions as a report to the Management Committee which will consider the report, together with the progress of the commercial study and external factors, such as the attitude of the postal and telecommunications authorities to the experiment and the extent of their cooperation, before making its recommendation to the Signatories as to whether the pilot experiment with the nodal centres should proceed.

The study group which effected the preliminary study of the project in the context of European Cooperation in the field of Scientific and Technical Research will assume the duties of the permanent executive body and of the technical advisory group until they are able to do so themselves.

Agreement on the establishment of a European informatics network (COST 11)¹

Date of entry into force: 1.2.1973

Duration: 1.2.1978

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
ECSC	23.11.1971	1.2.1973
Germany (Fed. Rep. of)	22.1.1976	20.4.1976
France	23.11.1971	1.2.1973
Italy	23.11.1971	1.2.1973
Netherlands	6.8.1974	14.8.1975
Yugoslavia	23.11.1971	1.2.1973
Norway	23.11.1971	1.2.1973
Portugal	23.11.1971	1.2.1973
Switzerland	23.11.1971	1.2.1973
Sweden	23.11.1971	1.2.1973
United Kingdom	23.11.1971	1.2.1973

¹ Not published in the Official Journal.

**Agreement
on the implementation of a European
telecommunications project on the topic
'Aerial network with phase control'**

(COST Project 25/1)

Agreement on the implementation of a European telecommunications project on the topic 'Aerial network with phase control'

(COST Project 25/1)

The Governments of the Federal Republic of Germany,
the French Republic,
the Kingdom of the Netherlands,
the Republic of Finland,
Sweden,

hereinafter referred to as 'the Signatories',

HAVE ACCEPTED participation in the project described below, hereinafter referred to as 'the project', and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project, which is being undertaken in order to stimulate the carrying out of research with a view to improving the functioning of the type of aerial with phase control. An outline description of the work envisaged for the project is contained in the Annex.

The research shall be coordinated by means of contracts between the Signatory or Signatories concerned on the one hand and research establishments (public or private research centres, university institutes or joint centres), on the other or by means of work entrusted to public research establishments which agree to work in association on a multinational basis.

Article 2

The work envisaged for the project shall cover a period of approximately three years.

Article 3

The project shall be divided into four phases:

1. basic research on phase control;
2. study of the reduction of losses between the aerial network and input and output amplifiers;
3. study of the components of aerials and of the coupling between these components;
4. assembly and testing of a complete ship's aerial.

On the expiry of each phase, any of the Signatories may decide to terminate its participation in the project, provided that it notifies the other Signatories at least three months before the phase concerned expires.

Article 4

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement.

Article 5

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Signatory, is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up reasoned recommendations based on the research proposals submitted to it. These recommendations shall be adopted by a simple majority; minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

The Committee shall meet regularly every six months, or more often if necessary, to review the progress of work and the results obtained.

Article 6

The Committee shall:

- (a) draw up programme proposals for the different phases;
- (b) examine the research and contract proposals submitted to it in this context by the Signatories;
- (c) address to the bodies concerned recommendations on the contracts proposed which, in its view, should be adopted, as well as on the duration of these contracts;
- (d) encourage cooperation between partners from different countries;
- (e) supervise the progress of the work, ensure the exchange of information and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;
- (f) publish, annually and at the end of the project, a report containing conclusions on the results of the operations covered by the project.

Article 7

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 8

The total cost of work to be carried out under the project is estimated at a maximum of 400 000 units of account, of which 150 000 is for the first phase, 100 000 for the second, 100 000 for the third and 50 000 for the fourth.

Each Signatory shall be responsible for financing the work carried out under the project on its initiative.

However, a financial contribution may be made by a Signatory towards work carried out upon the initiative of another Signatory on the basis of an Agreement between them.

Any joint expenses shall be shared equally between the Signatories, with the exception of Secretariat expenses.

Article 9

Applications for the award of contracts may be submitted by research establishments, preferably working in association, which are capable of carrying out all or part of the plan of research or having certain parts thereof carried out on their behalf and on their responsibility.

Article 10

The Signatories shall address to the Secretariat of the Committee the research proposals submitted to them.

Research establishments agreeing to associate for the purpose of carrying out a research project on a multinational basis shall freely negotiate between themselves the terms and conditions of their cooperation.

Article 11

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 12

1. The information and industrial property rights which any Signatory has obtained from its own work in implementing the project shall remain the property of that Signatory in so far as it is entitled to them under its national legislation. It may make use of the information belonging to the other Signatories

for its own requirements in the fields of public safety and public health.

The other Signatories shall be entitled, for the requirements defined in the preceding subparagraph, to a non-exclusive licence, free of charge, on the information and industrial property rights of any Signatory arising out of its work in implementing the project.

2. At the request of another Signatory, each Signatory shall grant non-exclusive licences on its information and industrial property rights referred to in paragraph 1, on fair and reasonable terms, to undertakings established in the territory of the former.
3. The Signatories shall not prevent the use of the information and industrial property rights referred to in paragraphs 1 and 2 on the terms set out in those paragraphs, by invoking against such use any prior property rights which they may possess.
4. Where under national law the information and industrial property rights do not belong exclusively to the Signatories, the latter undertake to grant each other, on the basis of the provisions of their national laws, licences with the possibility of granting sub-licences, in order to ensure that this Article is implemented effectively.

Article 13

The industrial undertakings and research establishments associated in a research or development project shall establish the procedure to be followed in exchanging the information necessary for carrying out the work which has been entrusted to them, together with the results of that work. They shall in particular determine their respective rights concerning the use of the know-how and industrial property rights resulting from their joint work and the terms on which they are to make other acquired relevant information and industrial property rights available to each other.

Article 14

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report, the sole purpose of which shall be to report on the results obtained, shall be much wider, embracing at least the industrial undertakings and research establishments concerned in the countries of the participants in the project.

Article 15

Without prejudice to the provisions of national laws, the Signatories shall insert in the study contracts and the research and development contracts, clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

1. As regards the separately financed work:

- (a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property, but a Signatory concluding contracts which, in execution, give rise to such property rights may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the Signatories to which the bodies relate.

- (b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the Signatories to which the bodies relate.

- (c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and

obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these contracts and enabling the undertakings established outside the territories of the Signatories to manufacture or sell in the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary in order to meet the needs of the Signatory requesting the licence in the fields listed in Article 12(1), first subparagraph;
- (ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

- 2. As regards the jointly financed work, the provisions set out in point 1 shall be applicable, subject to the following: in the event of one of the Signatories acting as the agent for the other Signatories, the rights which it may reserve, in accordance with point 1(a), shall extend to the other Signatories.

- 3. The provisions set out in points 1 and 2 shall apply *mutatis mutandis* to information not covered by industrial property rights (know-how, etc.).

Article 16

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 17

- 1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.
- 2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following the date on which at least two-thirds of the Signatories have transmitted these notifications.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

- 3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 18

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am sechzehnten Juni neunzehnhundertzweiundsiebzig.

Done at Brussels on the sixteenth day of June in the year one thousand nine hundred and seventy-two.

Fait à Bruxelles, le seize juin mil neuf cent soixante-douze.

Fatto a Bruxelles, addi' sedici giugno millenovecentosettantadue.

Gedaan te Brussel, zestien juni negentienhonderd tweeënzeventig.

ANNEX

1. The participants in the project will simultaneously undertake and will coordinate basic research and development work on aerial networks with phase control with a view to utilizing such aerials for maritime communications and navigation by satellites. They will exchange information and compare results achieved.
2. The work to be undertaken under this project will be grouped under four sub-topics, each one corresponding to one of the consecutive phases of the work;
 1. basic research on phase control;
 2. study of the reduction of losses between the aerial network and input and output amplifiers;
 3. study of the components of aerials and of the coupling between these components;
 4. assembly and testing of a complete ship's aerial.
3. The specifications proposed for the aerial referred to under point 4 of paragraph 2 are as follows:
 - (a) utilization: maritime and aeronautical telecommunications via satellite (transmission and reception)
 - (b) frequency band: 1.5-1.6 GHz
 - (c) aerial gain: 20 dB
 - (d) transmitted power delivered into the aerial: 200-400 W
 - (e) steering range: in elevation $\pm 45^\circ$
in azimuth $\pm 180^\circ$

A combination of mechanical and electronic steering can be used to obtain a 180° range in azimuth.

Special attention will be given to solving the problem of the overall noise temperature.
4. The determination of the technical details of the programme of work will be the responsibility of the Signatories acting through the Management Committee composed of representatives of the national telecommunications authorities.
5. The programme will be carried out along decentralized lines by various national research institutions, both public and private. As regards participation by the latter, research contracts between them and the national telecommunications authorities concerned will have to be concluded.
6. The research will remain under the supervision of the national telecommunications authorities, close contact between them being maintained through the Management Committee.
7. Each national telecommunications authority will be responsible for all the work carried out in its country by public or private laboratories.

**Agreement on the implementation of a European telecommunications project on the
topic 'Aerial network with phase control'
(COST 25/1)¹**

Date of entry into force: 1.6.1973

Duration: 1.6.1976

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Germany (Fed. Rep. of)	16.6.1972	1.6.1973
France	16.6.1972	1.6.1973
Netherlands	16.6.1972	1.6.1973
Finland	16.6.1972	1.6.1973
Sweden	16.6.1972	1.6.1973

¹ Not published in the Official Journal.

Agreement
on the implementation of a European
telecommunications project on the topic
‘Aerials with reduced first
side-lobes and maximum G/T yield’

(COST Project 25/2)

**Agreement
on the implementation of a European
telecommunications project on the topic
‘Aerials with reduced first
side-lobes and maximum G/T yield’**

(COST Project 25/2)

The Governments of the French Republic,
the Italian Republic (1st phase only),
the Socialist Federal Republic of Yugoslavia,
the Kingdom of the Netherlands,
the Swiss Confederation,

hereinafter referred to as ‘the Signatories’,

HAVE ACCEPTED participation in the project described below, hereinafter referred to as ‘the project’, and HAVE AGREED as follows:

Article 1

The Signatories shall coordinate their efforts in the project which is being undertaken in order to stimulate the carrying out of coordinated research and development operations with a view to improving the beaming possibilities of aerials with reduced first side-lobes and maximum G/T yield and to producing a model of a radiator. An outline description of the work envisaged for this project is contained in the Annex.

Research and development operations shall be carried out by means of contracts between the Signatory or Signatories concerned on the one hand and research establishments (public or private research centres, university institutes and joint centres), on the other, or by entrusting work to public research establishments which agree to work in association on a multinational basis.

Article 2

The duration envisaged for work on the project shall be a period of approximately two years.

Article 3

The project shall be divided into two phases:

1. theoretical and bibliographical work;
2. study and development of a reduced-power model of a radiator.

The aim is to prepare the ground for the study and production, under a future agreement, of the principal reflector and for the measurement of the performance of the aerial.

Article 4

This Agreement is open for signature by other European Governments which participated in the Ministerial Conference held in Brussel on 22 and 23 November 1971 and by the European Communities, subject to the unanimous consent of the Signatories. This unanimous consent shall not however be required until after the entry into force of the Agreement.

Article 5

A Management Committee, hereinafter referred to as ‘the Committee’, composed of one

representative of each Signatory, is hereby established. Each representative may be accompanied by such experts or advisers as he may need.

The Committee shall draw up its rules of procedure. The rules shall lay down the quorum required for the validity of the decisions of the Committee.

The Committee shall draw up recommendations based on the research proposals submitted to it. These recommendations shall be adopted by a simple majority: minority views and the reasoning behind them may be expressed in these recommendations.

Each representative shall have one vote in the Committee. Decisions concerning procedure shall be adopted by a simple majority. All other decisions shall be taken by unanimous vote; however, abstention by one or more representatives shall not preclude unanimity.

Article 6

The Committee shall:

- (a) draw up programme proposals for the different phases;
- (b) examine the research and contract proposals submitted to it in this context by the Signatories;
- (c) address to the bodies concerned recommendations on the contracts proposed which, in its view, should be adopted as well as on the duration of these contracts;
- (d) encourage cooperation between partners from different countries;
- (e) supervise the progress of the work, ensure the exchange of information and recommend, where appropriate, such changes as may be necessary in the direction or the volume of the work being undertaken;
- (f) publish, annually and at the end of the project, a report containing conclusions on the results of the operations covered by the project.

Article 7

At the request of the Signatories, the Secretariat of the Committee shall be provided by the Commission of the European Communities.

Article 8

The total cost of work to be carried out under the project is estimated at 150 000 units of account.

Each Signatory shall be responsible for financing the work carried out under this project on its initiative.

However, a financial contribution may be made by a Signatory towards work carried out upon the initiative of another Signatory on the basis of an Agreement between them.

Any joint expenses shall be shared equally between the Signatories, with the exception of Secretariat expenses.

Article 9

Applications for the award of contracts may be submitted by research establishments, preferably working in association, which are capable of carrying out all or part of the plan of research or having certain parts thereof carried out on their behalf and on their responsibility.

Article 10

The Signatories shall address to the Secretariat of the Committee the research proposals submitted to them.

Research establishments agreeing to associate for the purpose of carrying out a research project on a multinational basis shall freely negotiate between themselves the terms and conditions of their cooperation.

Article 11

The Signatories shall be responsible for the administration and financial management of the contracts which they conclude.

Article 12

1. The information and industrial property rights which any Signatory has obtained from its own work in implementing this project shall remain the property of that Signatory in so far as it is entitled to them under its national legislation. It may make use of the information belonging to the other Signatories for its own requirements in the fields of public safety and public health.

The other Signatories shall be entitled, for the requirements defined in the preceding subparagraph, to a non-exclusive licence, free of charge, on the information and industrial property rights of any Signatory arising out of its work in implementing the project.

2. At the request of another Signatory, each Signatory shall grant non-exclusive licences on its information and industrial property rights referred to in paragraph 1, on fair and reasonable terms, to undertakings established in the territory of the former.
3. The Signatories shall not prevent the use of the information and industrial property rights referred to in paragraphs 1 and 2 on the terms set out in those paragraphs, by invoking against such use any prior property rights which they may possess.
4. Where under national law the information and industrial property rights do not belong exclusively to the Signatories, the latter undertake to grant each other, on the basis of the provisions of their national laws, licences with the possibility of granting sub-licences, in order to ensure that this Article is implemented effectively.

Article 13

The industrial undertakings and research establishments associated in a study project or a research and development project shall establish the procedure to be followed in exchanging the information necessary for carrying out the work which has been entrusted to them, together with the results of that work. They shall in particular determine their respective rights concerning the use of the know-how and industrial property rights resulting from their joint work and the terms on which they are to make other acquired relevant information and industrial property rights available to each other.

Article 14

The Signatories shall insert in the contracts a clause requiring the industrial undertakings or research establishments to submit periodic progress reports and a final report.

The progress reports shall be circulated in a limited number of copies to the Signatories and to the Committee and shall be confidential to the extent that they contain detailed technical information. The circulation of the final report, the sole purpose of which shall be to report on the results obtained, shall be much wider, embracing at least the industrial undertakings and research establishments concerned in the countries of the participants in this project.

Article 15

Without prejudice to the provisions of national laws, the Signatories shall insert in the study contracts and the research and development contracts clauses enabling the application of the following provisions for as long as the industrial property rights arising out of the studies, research and development (hereinafter referred to as 'research'), excluding know-how, remain valid.

1. As regards the separately financed work:

(a) The industrial property rights over the research results belonging to the undertakings or research establishments which carried out the research or had it carried out on their behalf shall remain their property, but a Signatory concluding contracts which, in execution, give rise to such property rights may reserve certain rights which shall be defined in the contracts.

As regards contracts concluded with research establishments (public or private research centres, university institutes and joint centres), it may be agreed that the industrial property rights are to belong to the Signatory concerned or to any other body designated by that Signatory.

The filing of applications for industrial property rights resulting from the research shall be brought to the attention of the Signatories through the agency of the Signatories to which the bodies relate.

(b) Without prejudice to the provisions of subparagraph (c), the proprietor of industrial property rights resulting from research or acquired during it shall be at liberty to grant licences or dispose of the industrial property rights, it being his responsibility to inform the Signatories of such an intention through the agency of the Signatories to which the bodies relate.

(c) In so far as the stipulations of the Treaties establishing the European Communities, the laws and regulations in force in the territory of the Signatory concerned and obligations previously contracted by the undertakings granted research contracts and notified at the time of the conclusion of these contracts do not constitute any obstacle thereto, each of the Signatories shall have the right to oppose the granting to undertakings established outside the territories of the Signatories of industrial property rights acquired by the undertakings granted research contracts during the implementation of these

contracts and enabling the undertakings established outside the territories of the Signatories to manufacture or sell in the territory of the Signatory.

(d) The proprietor of the industrial property rights shall, in the cases enumerated below, be obliged to grant a licence at the request of any Signatory other than the one who concluded the contract which in execution gave rise to the industrial property rights:

- (i) where this is necessary in order to meet the needs of the Signatory requesting the licence in the fields listed in Article 12(1), first subparagraph;
- (ii) where the market requirements in the territory of the Signatory requesting the licence are not satisfied, in which case the licence is to be granted to an undertaking designated by that Signatory for the purpose of enabling that undertaking to meet the requirements of the market. However, a licence shall not be granted if the proprietor establishes legitimate grounds for refusing it, in particular that he has not been given adequate notice.

To obtain the grant of these licences, the applicant Signatory shall apply to the Signatory which concluded the contract which in execution gave rise to the industrial property rights.

These licences shall be granted on fair and reasonable terms and shall be accompanied by the right to grant a sub-licence on the same terms. They may, under the same conditions, cover the prior industrial property rights and applications for property rights of the licensor, in so far as is necessary for their utilization.

2. As regards the jointly financed work, the provisions set out in point 1 shall be applicable, subject to the following: in the event of one of the Signatories acting as the agent for the other Signatories, the rights which it may reserve, in accordance with point 1(a), shall extend to the other Signatories.
3. The provisions set out in points 1 and 2 shall apply *mutatis mutandis* to information not

covered by industrial property rights (know-how, etc.).

Article 16

The Signatories shall consult with each other, if one of them so requests, on any problem arising out of the application of this Agreement.

Article 17

1. Each of the Signatories shall notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures required in accordance with its internal provisions for the purpose of implementing this Agreement.
2. For the Signatories which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the second month following the date on which at least two-thirds of the Signatories have transmitted these notifications.

For those Signatories which transmit this notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Signatories which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months after the entry into force of this Agreement.

3. The Secretary-General of the Council of the European Communities shall notify each of the Signatories of the deposit of the notifications provided for in paragraph 1 and of the date of entry into force of this Agreement.

Article 18

This Agreement, drawn up in a single copy in the German, English, French, Italian and Dutch languages, all texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified true copy to each of the Signatories.

Geschehen zu Brüssel am dreiundzwanzigsten November neunzehnhunderteinundsiebzig.

Done at Brussels on the twenty-third day of November in the year one thousand nine hundred and seventy-one.

Fait à Bruxelles, le vingt-trois novembre mil neuf cent soixante et onze.

Fatto a Bruxelles, addì ventitre' novembre millenovecentosettantuno.

Gedaan te Brussel, drieëntwintig november negentienhonderd eenenzeventig.

ANNEX

1. The participants in the project will simultaneously undertake and will coordinate basic research and development on the topic 'Aerials with reduced first side-lobes and maximum G/T yield'. They will exchange information and compare results achieved.
2. The work to be undertaken under this project will be grouped into two consecutive phases:
 - (a) Theoretical and bibliographical work:
 - (i) bibliographical research;
 - (ii) theoretical studies with a view to reducing the side-lobes in the diagram of the directional characteristics of the aerial while maintaining a high G/T yield;
 - (b) Study and production of a reduced-power model of a radiator:
 - (i) experimental studies on the radiator;
 - (ii) research on optimum attainable compromise between aerial gain and side-lobe reduction;
 - (iii) determining by calculation the diagram of the complete aerial.

For these studies a frequency band selected from the 12 to 18 GHz range would appear suitable.
3. The determination of the technical details of the programme of work will be the responsibility of the Governments acting through the Committee.
4. The programme will be carried out along decentralized lines by national research institutions, both public and private. As regards participation by the latter, research contracts between them and the Government concerned will have to be concluded.
5. The research will remain under the supervision of the national Governments, close contact between them being maintained through the Committee.
6. Each Government will be responsible for all the work carried out in its country by public or private laboratories.
7. The Committee will meet regularly every six months, or more often if necessary, to review the progress of work and the results obtained.

**Agreement on the implementation of a European telecommunications project on the
topic 'Aerials with reduced first side-lobes and maximum G/T yield'
(COST 25/2)¹**

Date of entry into force: 1.6.1973

Duration: 1.6.1975

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
France	23.11.1971	1.6.1973
Italy ²	23.11.1971	4.9.1974
Netherlands	23.11.1971	1.6.1973
Yugoslavia	23.11.1971	1.6.1973
Switzerland	23.11.1971	1.6.1973

¹ Not published in the Official Journal.

² Italy is participating only in the first phase.

**Convention
establishing the European Centre for Medium-Range
Weather Forecasts**

(COST Project 70)

Convention establishing the European Centre for Medium-Range Weather Forecasts

(COST Project 70)

CONSIDERING the importance for the European economy of a considerable improvement in medium-range weather forecasts;

CONSIDERING that the scientific and technical research carried out for this purpose will provide a valuable stimulus to the development of meteorology in Europe;

CONSIDERING that the improvement of medium-range weather forecasts will contribute to the protection and safety of the population;

CONSIDERING that, to achieve these objectives, resources on a scale exceeding those normally practicable at national level are needed;

CONSIDERING that it appears from the report submitted by the working party responsible for preparing a project on the subject that the establishment of an autonomous European centre with international status is the appropriate means to attain these objectives;

CONSIDERING that such a centre could also assist in the post-university training of scientists;

CONSIDERING that the activities of such a centre will, moreover, make a necessary contribution to certain programmes of the World Meteorological Organization (WMO), in particular the world system of the World Weather Watch (WWW) and the Global Atmospheric Research Programme (GARP), undertaken by the World Meteorological Organization in conjunction with the International Council of Scientific Unions (ICSU);

CONSIDERING the importance that the establishment of such a centre can have for the development of European industry in the field of data-processing,

HAVE DECIDED to establish a European Centre for Medium-Range Weather Forecasts and to define the conditions under which it should operate and to this end have designated as their Plenipotentiaries:

His Majesty the King of the Belgians

Mr Joseph Van der Meulen,
Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of Belgium to the European Communities;

Her Majesty the Queen of Denmark

Mr Niels Ersbøll,
Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of Denmark to the European Communities;

The President of the Federal Republic of Germany

Mr Ulrich Lebsanft,
Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of the Federal Republic of Germany to the European Communities;

The Head of State of Spain

Mr Alberto Ullastres Calvo,
Ambassador Extraordinary and Plenipotentiary,
Head of the Mission of Spain to the European Communities;

The President of the French Republic

Mr Emile Cazimajou,
Deputy Permanent Representative of France to the European Communities;

The President of the Republic of Greece

Mr Byron Theodoropoulos,
Ambassador Extraordinary and Plenipotentiary,
Permanent Delegate of Greece to the European Economic Community;

The President of Ireland

Mr Brendan Dillon,
Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of Ireland to the European Communities;

The President of the Italian Republic

Mr Giorgio Bombassei Frascani de Vettor,
Ambassador of Italy,
Permanent Representative of Italy to the European Communities;

The Head of the Socialist Federal Republic of Yugoslavia

Mr Petar Miljevic,
Ambassador Extraordinary and Plenipotentiary,
Head of the Mission of Yugoslavia to the European Communities;

Her Majesty the Queen of the Netherlands

Mr E.M.J.A. Sassen,
Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of the Netherlands to the European Communities;

The President of the Portuguese Republic

Mr Fernando de Magalhaes Cruz,
Ambassador Extraordinary and Plenipotentiary,
Head of the Mission of Portugal to the European Communities;

The President of the Swiss Confederation

Mr Paul Henri Wirth,
Ambassador Extraordinary and Plenipotentiary,
Head of the Swiss Mission to the European Communities;

The President of the Republic of Finland

Mr Pentti Talvitie,
Ambassador Extraordinary and Plenipotentiary,
Head of the Mission of Finland to the European Communities;

His Majesty the King of Sweden

Mr Erik von Sydow,
Ambassador Extraordinary and Plenipotentiary,
Head of the Mission of Sweden to the European Communities;

Her Majesty the Queen of the United Kingdom of Great Britain and Northern Ireland

Sir Michael Palliser,
Ambassador Extraordinary and Plenipotentiary,
Permanent Representative of the United Kingdom to the European Communities;

WHO, having exchanged their Full Powers, found in good and due form,

HAVE AGREED AS FOLLOWS:

Article 1

1. A European Centre for Medium-Range Weather Forecasts, hereinafter referred to as 'the Centre', is hereby established.
 2. The organs of the Centre shall be the Council and the Director. The Council shall be assisted by a Scientific Advisory Committee and a Finance Committee. Each organ and committee shall carry out its functions within the limits and conditions laid down in this Convention.
 3. The members of the Centre, hereinafter referred to as 'Member States', shall be the States parties to this Convention.
 4. The Centre shall have legal personality in the territory of each Member State. It shall in particular have the capacity to contract, to acquire and dispose of movable and immovable property and to be party to legal proceedings.
 5. The headquarters of the Centre shall be at Shinfield Park near Reading (Berkshire), in the territory of the United Kingdom of Great Britain and Northern Ireland.
 6. The official languages of the Centre shall be Dutch, English, French, German and Italian.
Its working languages shall be English, French and German.
The Council shall determine the extent to which the official and working languages shall respectively be used.
- (d) to collect and store appropriate meteorological data;
 - (e) to make available to the meteorological offices of the Member States, in the most appropriate form, the results of the studies and research provided for in (a) and (c) and the data referred to in (b) and (d);
 - (f) to make available to the meteorological offices of the Member States for their research, priority being given to the field of numerical weather forecasting, a sufficient proportion of its computing capacity, such proportion being determined by the Council;
 - (g) to assist in implementing programmes of the World Meteorological Organization;
 - (h) to assist in advanced training for the scientific staff of the meteorological offices of the Member States in the field of numerical weather forecasting.
2. The Centre shall establish and operate the installations necessary for the achievement of the objectives defined in paragraph 1.
 3. As a general rule, the Centre shall publish or otherwise make available, under the conditions laid down by the Council, the scientific and technical results of its activities, inasmuch as these results are not covered by Article 15.

Article 3

1. The objectives of the Centre shall be:
 - (a) to develop dynamic models of the atmosphere with a view to preparing medium-range weather forecasts by means of numerical methods;
 - (b) to prepare, on a regular basis, the data necessary for the preparation of medium-range weather forecasts;
 - (c) to carry out scientific and technical research directed towards improving the quality of these forecasts;
1. In order to attain its objectives, the Centre shall cooperate to the largest extent possible, in accordance with international meteorological traditions, with the Governments and national agencies of the Member States, with States which are not members of the Centre and with governmental or non-governmental international scientific and technical organizations whose activities are related to its objectives.
 2. Moreover, the Centre may conclude cooperation agreements:
 - (a) with States, under the conditions laid down in Article 6 (1)(e);

(b) with the national scientific and technical agencies of the Member States and with the international organizations referred to in paragraph 1, under the conditions laid down in Article 6 (3)(k).

3. The cooperation agreements referred to in paragraph 2 may make part of the Centre's computing capacity available only to public agencies of the Member States.

Article 4

1. The Council shall have the powers and shall adopt the measures necessary to implement this Convention.
2. The Council shall be composed of not more than two representatives from each Member State, one of whom should be a representative of his national meteorological service. These representatives may be assisted at Council meetings by advisers.

A representative of the World Meteorological Organization shall be invited to take part in the work of the Council as an observer.

3. The Council shall elect from among its members a President and a Vice-President who shall be appointed for one year and who may not be re-elected more than twice in succession.
4. The Council shall meet at least once a year. It shall be convened at the request of the President or at the request of at least one-third of the Member States. Meetings of the Council shall be held at the headquarters of the Centre unless the Council decides otherwise in exceptional cases.
5. The President and Vice-President may call on the assistance of the Director in the performance of their duties.
6. The Council may set up advisory committees and shall determine the composition and duties thereof.

Article 5

1. The presence of the representatives of the majority of Member States entitled to vote shall be necessary to constitute a quorum at meetings of the Council.
2. Each Member State shall have one vote in the Council. A Member State shall lose its right to vote in the Council if the amount of its unpaid contributions exceeds the amount of the contributions due from it, under Article 13,

for the current financial year and for the preceding financial year. The Council, acting in accordance with Article 6 (3)(m), may nevertheless authorize the Member State to vote.

3. Between meetings of the Council, the Council may dispose of any matter which is urgent by means of a postal vote. In such cases, the majority of the Member States entitled to vote shall constitute the quorum.
4. In determining unanimity and the various majorities provided for in this Convention, only votes cast for or against a decision and, in cases where the Council acts in accordance with the procedure laid down in Article 6 (2), the financial contributions of the Member States taking part in the vote, shall be taken into account.

Article 6

1. The Council, acting unanimously, shall:
 - (a) fix the ceiling of expenditure for implementing the programme of the activities of the Centre over the five years following the entry into force of this Convention;
 - (b) decide on the admission of new members, in accordance with Article 23, and lay down the conditions for such admissions in accordance with Article 13 (3);
 - (c) decide, in accordance with Article 20, on the withdrawal of membership from a State, that State not participating in the vote on this matter;
 - (d) decide on the dissolution of the Centre, in accordance with Article 21 (1) and (2);
 - (e) authorize the Director to negotiate co-operation agreements with States; it may authorize him to conclude such agreements;
 - (f) conclude, with one or more of the Member States, in accordance with Article 22 of the Protocol on Privileges and Immunities provided for in Article 16, any additional agreements for the purpose of implementing that Protocol.
2. The Council, acting by a majority of two-thirds of the Member States, and provided that the sum of the contributions from these States represents at least two-thirds of the total contributions to the budget of the Centre, shall:
 - (a) adopt the Financial Regulations of the Centre;
 - (b) adopt, in accordance with Article 12 (3), the annual budget and the table of the staff

requirements of the Centre annexed thereto and, if necessary, supplementary or rectifying budgets, and approve the overall estimate of expenditure and revenue for the next three financial years; if the Council has not yet adopted the budget, it shall authorize the Director to incur expenditure and make payments, within a given month, exceeding the limit provided for in the first subparagraph of Article 12 (5);

(c) acting on a proposal from the Director, take decisions concerning any immovable property and equipment whose acquisition or renting by the Centre involves considerable expenditure;

(d) decide on the measures to be taken in the event of denunciation of this Convention within the meaning of Article 19;

(e) decide that the Centre shall not be dissolved in the event of denunciation of this Convention within the meaning of Article 21 (1), the denouncing Member States not taking part in the vote on this matter;

(f) determine, in accordance with Article 21 (3), the conditions for winding up the Centre in the event of its dissolution.

3. The Council, acting by a majority of two-thirds:

(a) shall adopt its Rules of Procedure;

(b) shall adopt the Staff Regulations and the scale of the staff salaries of the Centre and shall determine the nature of the additional benefits the staff shall enjoy and the rules for granting them; it shall also determine the rights of officials regarding industrial property rights and copyright relating to work done by them in the course of their duties;

(c) shall approve the agreement to be concluded, in accordance with Article 16, between the Centre and the State in whose territory the headquarters of the Centre are located;

(d) shall appoint the Director of the Centre and his deputy for a period not exceeding five years, their appointments being renewable one or more times, for a period not exceeding five years each time;

(e) shall determine the number of auditors, the length of their appointment, the amount of their remuneration, and shall appoint them in accordance with Article 14 (2);

(f) may terminate or suspend the appointment of the Director or his deputy, account

being taken of the provisions of the Staff Regulations which are applicable to them;

(g) shall approve the Rules of Procedure of the Scientific Advisory Committee in accordance with Article 7 (4);

(h) shall adopt the scale of financial contributions of the Member States in accordance with Article 13 (1) and (3) and shall decide to reduce temporarily the contribution of a Member State because of special circumstances in that State, in accordance with Article 13 (2);

(i) shall adopt, subject to paragraph (1)(a), the programme of the activities of the Centre, in accordance with Article 11;

(j) shall consider annually the accounts of the previous financial year, together with the balance sheet of the assets and liabilities of the Centre, after taking note of the auditors' report, and shall give a discharge to the Director in respect of the implementation of the budget;

(k) shall authorize the Director to negotiate cooperation agreements with the national scientific and technical agencies of the Member States and with governmental or non-governmental international scientific and technical organizations whose activities are related to the objectives of the Centre; it may authorize him to conclude such agreements;

(l) shall determine the conditions under which licences granted to the Member States pursuant to Article 15 (1) and (2) may be extended to applications other than weather forecasting;

(m) shall decide, in the case provided for in Article 5 (2), that a Member State may retain the right to vote, the Member State in question not taking part in the vote on this matter;

(n) shall recommend to Member States, in accordance with Article 18, amendments to this Convention;

(o) shall determine, in accordance with Article 17 of the Protocol on Privileges and Immunities provided for in Article 16, the categories of staff members to which Articles 13 and 15 of that Protocol shall apply, in whole or in part, and the categories of experts to which Article 14 of that Protocol shall apply.

4. When a special majority is not specified, the Council shall act by a simple majority.

Article 7

1. The Scientific Advisory Committee shall be composed of 12 members appointed in their personal capacity by the Council for a period of four years. The Committee shall be renewed by one quarter every year. Each member may be appointed for only two terms of office in succession.

A representative of the World Meteorological Organization shall be invited to take part in the work of the Committee.

The members of the Committee shall be selected from among the scientists of the Member States and shall represent as broad a range as possible of the disciplines relating to the activities of the Centre. The Director shall submit a list of candidates to the Council.

2. The Committee shall draw up, for submission to the Council, opinions and recommendations on the draft programme of the activities of the Centre drawn up by the Director and on any matter submitted to it by the Council. The Director shall keep the Committee informed concerning the implementation of the programme. The Committee shall give opinions on the results obtained.
3. The Committee may invite experts, in particular persons belonging to services using the Centre, to take part in its work when there are specific problems to be solved.
4. The Committee shall draw up its Rules of Procedure. These Rules of Procedure shall enter into force after approval by the Council acting in accordance with Article 6 (3)(g).

Article 8

1. The Finance Committee shall be composed of:

(a) one representative of each of the four Member States paying the highest contributions;

(b) three representatives of the other Member States, appointed by them for a period of one year; each of these States may not be represented on the Committee more than twice in succession.

2. Under the conditions laid down in the Financial Regulations, the Committee shall draw up, for submission to the Council, opinions and recommendations on all financial matters submitted to the Council and shall exercise the financial powers delegated to it by the Council.

Article 9

1. The Director shall be the chief executive officer of the Centre. He shall represent the Centre in dealings with third parties. He shall be responsible to the Council for the execution of the tasks assigned to the Centre. He shall take part, without the right to vote, in all meetings of the Council.

The Council shall appoint the person who is to act as Director *ad interim*.

2. The Director shall:

(a) take all measures necessary for the proper functioning of the Centre;

(b) exercise the powers accorded to him under the Staff Regulations, subject to Article 10 (4);

(c) submit to the Council the draft programme of the activities of the Centre, together with the opinions and recommendations of the Scientific Advisory Committee;

(d) prepare and implement the budget of the Centre in accordance with the Financial Regulations;

(e) keep a precise record of all the revenue and expenditure of the Centre in accordance with the Financial Regulations;

(f) submit annually for the approval of the Council, the accounts relating to the implementation of the budget and the balance sheet of assets and liabilities, drawn up in each case in accordance with the Financial Regulations, and the report on the activities of the Centre;

(g) conclude, in accordance with Article 6 (1)(e) and Article 6 (3)(k), the cooperation agreements necessary for attaining the objectives of the Centre.

3. In carrying out his tasks, the Director shall be assisted by the other staff of the Centre.

Article 10

1. Subject to the second subparagraph, the staff of the Centre shall be subject to the Staff Regulations adopted by the Council acting in accordance with Article 6 (3)(b).

If the terms of employment of a staff member of the Centre do not fall under these Staff Regulations, they shall be subject to the law applicable in the State in which the person concerned carries out his duties.

2. The recruitment of staff shall be based on personal qualifications, account being taken of the international character of the Centre. No post may be reserved for nationals of a particular Member State.

3. The Centre may employ staff from national agencies of the Member States seconded to the Centre for a specified period.
4. The Council shall approve the appointment and dismissal of officials in the upper grades defined in the Staff Regulations, and of the Financial Comptroller and his deputy.
5. Disputes arising out of the implementation of the Staff Regulations or the execution of the contracts of employment of the staff shall be settled in accordance with the Staff Regulations.
6. Every person who works at the Centre shall be subject to the authority of the Director and shall conform with all the general rules approved by the Council.
7. Each Member State shall be required to respect the international character of the responsibilities of the Director and the other officials of the Centre. In the performance of their duties, the Director and the other officials shall neither seek nor accept instructions from any Government or authority outside the Centre.

Article 11

The programme of activities of the Centre shall be adopted by the Council acting on a proposal from the Director in accordance with Article 6 (3)(i).

The programme shall cover, in principle, a four-year period and shall be adapted and supplemented each year for an additional period of one year. It shall fix the ceiling of expenditure for the duration of the programme and shall contain, in addition, an estimate of the expenditure arising out of its implementation in respect of each year and each major category.

The ceiling of expenditure may only be amended in accordance with the procedure laid down in Article 6 (3)(i).

Article 12

1. The budget of the Centre shall be drawn up for each financial year before the beginning of that year, under the conditions laid down in the Financial Regulations.

The expenditure of the Centre shall be met from the financial contributions of the Member States and any other revenue of the Centre.

The revenue and expenditure shown in the budget shall be in balance. The budget shall be drawn up in the currency of the State in which the headquarters of the Centre are located.

2. All expenditure and revenue of the Centre shall be the subject of detailed estimates to be drawn up for each financial year and shall be shown in the budget.

Commitment appropriations relating to a period extending beyond the financial year may be authorized under the conditions laid down in the Financial Regulations.

In addition, an overall estimate of expenditure and revenue in each major category for the next three financial years shall be drawn up.

3. The Council, acting in accordance with Article 6 (2)(b), shall adopt the budget for each financial year and the table of the posts of the Centre annexed thereto and any supplementary or rectifying budgets and approve the overall estimate of expenditure and revenue for the next three financial years.
4. The adoption of the budget by the Council shall:

(a) oblige each Member State to make available to the Centre the financial contributions determined in the budget;

(b) authorize the Director to enter into commitments and make payments within the limits of the appropriations authorized for these purposes.

5. If the budget has not been adopted by the Council by the beginning of a financial year, the Director may, each month, enter into commitments and make payments in each chapter up to one-twelfth of the appropriations in the budget of the preceding financial year, provided that he shall not have at his disposal appropriations in excess of one-twelfth of those provided for in the draft budget.

Member States shall pay each month, on a provisional basis and in accordance with the scale provided for in Article 13, the amounts necessary for the application of the first subparagraph.

6. The budget shall be implemented under the conditions laid down in the Financial Regulations.

Article 13

1. Each Member State shall pay an annual contribution to the Centre, in convertible

currency, based on the scale which shall be adopted every three years by the Council acting in accordance with Article 6 (3)(h). This scale shall be based on the average gross national product of each Member State over the last three calendar years for which there are statistics.

2. The Council, acting in accordance with Article 6 (3)(h), may decide to reduce temporarily the contribution of a Member State because of special circumstances in that State. Special circumstances shall in particular be considered to exist where a Member State has a *per capita* gross national product lower than an amount which shall be determined by the Council acting in accordance with the procedure laid down in Article 6 (3).
3. If, after the entry into force of this Convention, a State becomes a party to this Convention, the scale of contributions shall be modified by the Council according to the basis for calculation laid down in paragraph 1. The new scale shall take effect when the State concerned becomes a party to this Convention.

A State which becomes a party to this Convention after 31 December of the year during which it enters into force shall be required to pay, in addition to the contribution laid down in paragraph 1, a single additional contribution to the expenditure previously incurred by the Centre. The amount of this additional contribution shall be determined by the Council, acting in accordance with the procedure laid down in Article 6 (1).

Unless the Council decides otherwise, acting in accordance with the procedure laid down in Article 6 (1), any additional contribution paid pursuant to the second subparagraph shall be deducted from the contributions of the other Member States. This reduction shall be calculated on a *pro rata* basis according to the contributions actually paid by each Member State prior to the current financial year.

4. If, after the entry into force of this Convention, a State ceases to be a party to this Convention, the scale of contributions shall be modified by the Council according to the basis for calculation laid down in paragraph 1. The new scale shall take effect when the State concerned ceases to be a party to this Convention.
5. The methods of payment of the contributions shall be determined in the Financial Regulations.

Article 14

1. The accounts of all revenue and expenditure shown in the budget and the balance sheet of the assets and liabilities of the Centre shall, under the conditions laid down in the Financial Regulations, be submitted for audit to auditors whose independence is beyond doubt. The purpose of the audit, which shall be based on records and if necessary performed on the spot, shall be to establish that all revenue has been received and all expenditure incurred in a lawful and regular manner and that the financial management of the Centre has been sound. The auditors shall submit a report on the annual accounts to the Council.
2. The Council, acting on a proposal from the Finance Committee in accordance with Article 6 (3)(e), shall determine the number of auditors, the length of their appointment, the amount of their remuneration, and shall appoint them.
3. The Director shall give the auditors any information and assistance needed for the audit referred to in paragraph 1.

Article 15

1. Each Member State shall be granted, free of charge, for its own requirements in the field of weather forecasting, a non-exclusive licence and any other non-exclusive right of use, in respect of industrial property rights, computer programs and technological information which result from work carried out pursuant to this Convention and which belong to the Centre.
2. Where the Centre does not possess the rights referred to in paragraph 1, it shall attempt to obtain the necessary rights, under the conditions determined by the Council.
3. The conditions under which the licences referred to in paragraph 1 may be extended to applications other than weather forecasting shall be the subject of a decision of the Council acting in accordance with Article 6 (3)(1).

Article 16

The privileges and immunities which the Centre, the representatives of the Member States, the staff and the experts of the Centre enjoy in the territories of the Member States shall be determined in a protocol which shall be annexed to this Convention and which shall form an integral part thereof, and in an agreement to be concluded be-

tween the Centre and the State in whose territory the headquarters of the Centre are located. This agreement shall be approved by the Council acting in accordance with Article 6 (3)(c).

Article 17

1. Any dispute between Member States or between one or more Member States and the Centre concerning the interpretation or application of this Convention, including the Protocol on the Privileges and Immunities provided for in Article 16 or relating to one of the cases provided for in Article 24 of that Protocol, which can not be settled by the good offices of the Council shall, on a request made by one party to the dispute to the other, be referred to an arbitration tribunal, set up in accordance with the first subparagraph of paragraph 2, unless the parties to the dispute agree within three months on another form of settlement.
2. Each party to the dispute, whether constituted by one or more Member States, shall appoint one member of the arbitration tribunal within two months from the date on which the request referred to in paragraph 1 is received. These members shall, within two months of the appointment of the second member, appoint a third member who shall be the chairman of the tribunal, and who shall not be a national of a State which is a party to the dispute. If the appointment of any of the three members of the tribunal has not been made within the prescribed period, it shall be made by the President of the International Court of Justice at the request of one of the parties.

The arbitration tribunal shall take decisions by a majority. Its decisions shall bind the parties to the dispute. Each party shall bear the costs of the member of the tribunal appointed by it and those relating to its representation at proceedings before the tribunal. Each party to the dispute shall bear an equal share of the costs relating to the chairman of the tribunal and any other expenses, unless the tribunal decides otherwise. The tribunal shall determine its other rules of procedure.

Article 18

1. Each Member State may transmit proposals for amending this Convention to the Director. The Director shall submit such proposals to the other Member States at least three months before they are to be examined by the Council. The Council shall examine the proposals and may, acting in accordance with

Article 6 (3)(n), recommend the Member States to accept the proposed amendments.

2. Amendments recommended by the Council may only be accepted by the Member States in writing. They shall enter into force 30 days after receipt by the Secretary-General of the Council of the European Communities of the last written notification of acceptance.

Article 19

1. Any Member State may denounce this Convention after it has been in force for five years by giving notice to the Secretary-General of the Council of the European Communities. Denunciation shall take effect at the end of the second financial year following the year during which notice is given.
2. A Member State which has denounced this Convention shall remain bound to contribute towards financing all commitments entered into by the Centre before such denunciation and to respect the obligations which it contracted itself as a Member State *vis-à-vis* the Centre before the denunciation.
3. A Member State which has denounced this Convention shall lose its rights to the assets of the Centre and must indemnify the Centre, under the conditions laid down by the Council acting in accordance with Article 6 (2)(d), for any loss for the Centre of property in the territory of such a State, unless a special agreement is concluded guaranteeing the Centre the use of such property.

Article 20

Any Member State which does not fulfil its obligations under this Convention may be deprived of its membership by a decision of the Council acting in accordance with Article 6 (1)(c). In such an event Article 19 (2) and (3) shall be applicable *mutatis mutandis*.

Article 21

1. Unless the Council acting in accordance with Article 6 (2)(e) decides otherwise, the Centre shall be dissolved if denunciation of this Convention by one or more Member State results in the levels of contributions of the other Member States being increased by one-fifth over their initial levels.

2. In addition to the case referred to in paragraph 1, the Centre may be dissolved at any time by the Council acting in accordance with Article 6 (1)(d).
3. In the event of dissolution of the Centre, the Council shall appoint a liquidator.

Unless the Council acting in accordance with Article 6 (2)(e) decides otherwise, any surplus shall be distributed among the Member States at the time of dissolution on a *pro rata* basis according to the contributions actually paid by them during the time in which they have been parties to this Convention.

Any deficit shall be met by the Member States on a *pro rata* basis according to their contributions fixed for the current financial year.

Article 22

1. This Convention shall be open for signature by the European States mentioned in the Annex until 11 April 1974 at the General Secretariat of the Council of the European Communities.

It shall be subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited in the archives of the General Secretariat of the Council of the European Communities.

2. This Convention shall enter into force on the first day of the second month following the date of its ratification, acceptance or approval by no less than two-thirds of the signatory States, including the State in whose territory the headquarters of the Centre are located, provided that the total contributions by these States amounts to at least 80% of the total contributions in accordance with the scale contained in the Annex.

For any other signatory State, this Convention shall enter into force on the first day of the second month following the date of the deposit of its instrument of ratification, acceptance or approval.

Article 23

After the entry into force of this Convention, any State which is not a Signatory and is mentioned in the Annex may accede to this Convention, subject

to the consent of the Council acting in accordance with Article 6 (1)(b). Instruments of accession shall be deposited in the archives of the General Secretariat of the Council of the European Communities.

For each acceding State, this Convention shall enter into force on the first day of the second month following the deposit of its instrument of accession.

Article 24

The Secretary-General of the Council of the European Communities shall notify the signatory and acceding States of:

- (a) any signature to this Convention;
- (b) the deposit of all instruments of ratification, acceptance, approval or accession;
- (c) the entry into force of this Convention;
- (d) any written notification of acceptance of an amendment to this Convention;
- (e) the entry into force of any amendment;
- (f) any denunciation of this Convention or loss of membership of the Centre.

As soon as this Convention enters into force, the Secretary-General of the Council of the European Communities shall register it with the General Secretariat of the United Nations, in accordance with Article 102 of the Charter of the United Nations.

Article 25

1. The first financial year shall run from the entry into force of this Convention until 31 December following. In the event of this period beginning during the second half of a calendar year, it shall run until 31 December of the following year.
2. States which have signed this Convention but have not ratified, accepted or approved it may be represented at meetings of the Council and take part in its work without the right to vote for a period of 12 months after the entry into force of this Convention. This period may be extended for a further period of six months by the Council, acting in

accordance with the procedure laid down in Article 6 (3).

Article 26

3. At its first meeting the Scientific Advisory Committee shall determine, by drawing lots, the nine members of the Committee whose terms of office shall expire, in accordance with the first subparagraph of Article 7 (1), at the end of the first, second and third years of operation of the Committee.

This Convention, drawn up in a single original in the Dutch, English, French, German and Italian languages, all five texts being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities, which shall transmit a certified copy to the Government of each signatory or acceding State.

ZU URKUND DESSEN haben die unterzeichneten Bevollmächtigten ihre Unterschriften unter dieses Uebereinkommen gesetzt.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries have signed this Convention.

EN FOI DE QUOI, les plénipotentiaires soussignés ont apposé leurs signatures au bas de la présente convention.

IN FEDE DI CHE, i plenipotenziari sottoscritti hanno apposto la loro firma in calce alla presente Convenzione.

TEN BLIJKE WAARVAN de ondergetekende gevolmachtigden hun handtekening onder deze Overeenkomst hebben gesteld.

Geschehen zu Brüssel am elften Oktober neunzehnhundertdreiundsiebzig.

Done at Brussels on this eleventh day of October in the year one thousand nine hundred and seventy-three.

Fait à Bruxelles, le onze octobre mil neuf cent soixante-treize.

Fatto a Bruxelles, addì undici ottobre millenovecentosettantatré.

Gedaan te Brussel, elf oktober negentienhonderd drieënzeventig.

ANNEX

Provisional scale of contributions

The scale given below is intended exclusively for the purposes of implementing Article 22 (2) of the Convention. It in no way prejudices any decisions to be taken by the Council pursuant to Article 13 (1) of the Convention, concerning future scales of contributions.

<i>Countries which took part in the drafting of the Convention</i>	<i>%</i>
Belgium	3.25
Denmark	1.98
Federal Republic of Germany	21.12
Spain	4.16
France	19.75
Greece	1.18
Ireland	0.50
Italy	11.75
Yugoslavia	1.65
Luxembourg	0.12
Netherlands	3.92
Norway	1.40
Austria	1.81
Portugal	0.79
Switzerland	2.63
Finland	1.33
Sweden	4.19
Turkey	1.81
United Kingdom	16.66

**Protocol
on the Privileges and Immunities
of the European Centre
for Medium-Range Weather Forecasts**

The States parties to the Convention establishing the European Centre for Medium-Range Weather Forecasts, signed at Brussels on 11 October 1973,

WISHING to define the privileges and immunities necessary for the proper functioning of this Centre,

HAVE AGREED AS FOLLOWS:

Article 1

1. Subject to the provisions of this Protocol, the premises of the Centre shall be inviolable.
2. The authorities of the State in which the headquarters of the Centre are located may not enter the premises of the Centre except with the consent of the Director or persons nominated by him. In case of fire or other disaster requiring prompt preventive action, the consent of the Director may be assumed.
3. The Centre shall prevent its premises from becoming a refuge for persons seeking to avoid arrest or service of legal papers.

Article 2

The archives of the Centre shall be inviolable.

Article 3

1. Within the scope of its official activities, the Centre shall have immunity from jurisdiction and execution except:
 - (a) to the extent that, by decision of the Council, the Centre waives it in a particular case. However, the Centre shall be deemed to have waived this immunity if, upon receiving a request to waive immunity submitted by the national authority before which the case is brought or by the opposing party, it has not given notice, within 15 days after receipt of the request, that it does not waive such immunity;
 - (b) in respect of a civil action by a third party for damage arising from an accident

caused by a vehicle belonging to or operated on behalf of the Centre or in respect of a traffic offence;

(c) in respect of an enforcement of an arbitration award made either under Article 23 of this Protocol or Article 17 of the Convention establishing the Centre, hereinafter referred to as 'the Convention';

(d) in the event of the attachment, pursuant to a decision by the administrative or judicial authorities, of the salaries, wages and emoluments owed by the Centre to a member of its staff.

2. In any dispute involving a staff member or an expert of the Centre for whom immunity from jurisdiction is claimed under Article 13 or Article 14, the responsibility of the Centre shall be substituted for that of the staff member or expert concerned.
3. Subject to paragraph 1, the Centre's property and assets wherever situated shall be immune from any form of administrative or provisional judicial constraint such as requisition, confiscation, expropriation or attachment, except in so far as may be temporarily necessary in connection with the prevention of and investigation into accidents involving vehicles belonging to or operated on behalf of the Centre.

Article 4

1. Within the scope of its official activities, the Centre and its property and income shall be exempt from all direct taxes.
2. When the Centre makes purchases of substantial value or uses services of substantial value which are strictly necessary for the

exercise of its official activities and when the price of such purchases or services includes duties or taxes, the Member State which has levied the duties and taxes shall take appropriate measures to remit or reimburse the amount of the identifiable duties and taxes.

3. No exemption shall be accorded in respect of duties and taxes which are no more than payments for public utility services.

Article 5

Goods imported or exported by the Centre and strictly necessary for the exercise of its official activities shall be exempt from all customs duties, taxes and all customs charges except those charges which are no more than payments for services. Such goods shall also be exempt from all prohibitions and restrictions on import and export. The Member States shall take all appropriate steps within their respective powers to effect customs clearance with the minimum of delay for such goods.

Article 6

No exemption shall be accorded under Article 4 or Article 5 in respect of goods purchased and imported for the personal needs of the staff members of the Centre or of experts within the meaning of Article 14.

Article 7

Goods acquired under Article 4 or imported under Article 5 may not be sold, given away or hired out except in accordance with the conditions laid down by the regulations of the State which has granted the exemptions.

Article 8

1. The Centre may receive and hold any kind of funds or currency. It may dispose of them freely for the exercise of its official activities and may hold accounts in any currency to the extent required to meet its obligations.
2. Within the scope of its official activities and without prejudice to paragraph 1, the Centre may also receive, hold and dispose of se-

curities, subject to any provisions concerning exchange regulations which are applicable to other inter-governmental organizations in the Member State concerned.

Article 9

The circulation of publications and other information material sent by or to the Centre within the scope of its official activities shall not be restricted in any way.

Article 10

1. With regard to the transmission of data within the scope of its official activities, the Centre shall enjoy, in the territory of each Member State, treatment as favourable as that accorded by that State to its national meteorological service, taking into account the international obligations of that State in respect of telecommunications.
2. With regard to its official communications and the transfer of all its documents, the Centre shall enjoy treatment as favourable as that accorded by each Member State to other international organizations, taking into account the international obligations of that State in respect of telecommunications.
3. No censorship shall be applied to official communications of the Centre by whatever means of communication.

Article 11

Member States shall take all appropriate measures to facilitate the entry, stay and departure of representatives of Member States, staff members of the Centre and experts within the meaning of Article 14.

Article 12

Representatives of Member States taking part in the work of the organs and committees of the Centre shall enjoy, while performing their duties and in the course of their journeys to and from the place of meeting, the following privileges, immunities and facilities:

(a) immunity from arrest and detention and from seizure of their personal luggage, except when found committing, attempting to commit, or just having committed an offence;

(b) immunity from jurisdiction, even after the termination of their mission, in respect of acts, including words spoken or written, performed by them in their official capacity and within the limits of their authority; this immunity shall not apply in the case of a traffic offence committed by a representative of a Member State nor in the case of damage caused by a vehicle belonging to or driven by such a person;

(c) inviolability for all their official papers and documents;

(d) exemption from all measures restricting aliens' entry and from aliens' registration formalities;

(e) the same customs facilities as regards their personal luggage and the same privileges in respect of currency and exchange regulations as are accorded to the representatives of foreign Governments on temporary official missions.

Article 13

The staff members of the Centre shall enjoy, within the limits provided for in this Protocol, the following privileges, immunities and facilities:

(a) immunity from jurisdiction, even after they have left the service of the Centre, in respect of acts, including words spoken or written, performed by them in their official capacity and within the limits of their authority; this immunity shall not apply in the case of a traffic offence committed by a staff member, nor in the case of damage caused by a vehicle belonging to or driven by such a person;

(b) exemption from all obligations in respect of military service;

(c) inviolability for all their official papers and documents;

(d) together with members of their families forming part of their households, the same exceptions regarding measures restricting immigration and governing aliens' registration as are normally accorded to staff members of international organizations;

(e) the same privileges in respect of monetary and exchange regulations as are normally accorded to staff members of international organizations;

(f) together with members of their families forming part of their households, the same facilities as regards repatriation in time of international crisis as are normally accorded to staff members of international organizations;

(g) the right to import free of duty furniture and personal effects at the time of taking up a post for a period of at least one year in the State concerned and the right on the termination of their functions in the said State to export free of duty furniture and personal effects, subject in both cases to the conditions considered necessary by the Government of the State in whose territory the right is exercised and with the exception of property acquired in that State and subject to an export prohibition therein.

Article 14

Experts who are not staff members and who perform duties at the Centre or who carry out missions on its behalf, shall enjoy, while performing their duties or while on missions and during journeys made in the course of such duties or missions, the following privileges, immunities and facilities to the extent that they are necessary for the performance of their duties or for the accomplishment of their missions:

(a) immunity from jurisdiction, even after they have left the service of the Centre, in respect of acts, including words spoken and written, performed by them in their capacity as experts and within the limits of their authority; this immunity shall not apply in the case of a traffic offence committed by an expert nor in the case of damage caused by a vehicle belonging to or driven by such a person;

(b) inviolability for all their official papers and documents;

(c) the same customs facilities as regards their personal luggage and the same privileges in respect of currency and exchange regulations as are accorded to persons sent by foreign Governments on temporary official missions.

Article 15

1. Subject to the conditions and following the procedure laid down by the Council acting in accordance with the procedure laid down in Article 6 (2) of the Convention within a period of one year after the Convention's entry into force, the staff members of the Centre shall, within the limits provided for in this Protocol, be subject to a tax for the benefit of the Centre on salaries, wages and emoluments paid by the Centre. From the date on which

this tax is applied such salaries, wages and emoluments shall be exempt from national income tax, the Member States retaining the right to take such salaries, wages and emoluments into account when assessing the amount of taxation to be applied to income from other sources.

2. Paragraph 1 shall not apply to pensions and similar payments paid by the Centre.

Article 16

No Member State shall be obliged to accord the privileges, immunities and facilities referred to in Article 12, Article 13 (b), (e), (f) and (g) and Article 14 (c) to its representatives, its nationals or persons who, at the time of taking up their duties at the Centre, are permanent residents of that State.

Article 17

The Council, acting in accordance with the procedure laid down in Article 6 (3)(o) of the Convention, shall determine the categories of staff members to which Articles 13 and 15 shall apply in whole or in part and the categories of experts to which Article 14 shall apply. The names, titles and addresses of persons included in such categories shall be communicated periodically to the Member States.

Article 18

If the Centre establishes its own social security scheme or joins that of another international organization under the conditions laid down in the Staff Regulations, the Centre and its staff members shall be exempt from all compulsory contributions to national social security schemes, subject to agreements to be concluded to that end with the Member States concerned under the conditions laid down in Article 22.

Article 19

1. The privileges, immunities and facilities provided for in this Protocol are granted solely in the interests of the Centre and of the Mem-

ber States, and not for the personal advantage of those enjoying them.

2. The competent authorities have not only the right but also the duty to waive an immunity where such immunity is impeding the course of justice and where it can be waived without prejudicing the purposes for which it was accorded.
3. The competent authorities referred to in paragraph 2 are:
 - the Member States, in the case of their representatives,
 - the Council, in the case of the Director,
 - the Director, in the case of the other staff members and experts within the meaning of Article 14.

Article 20

1. The Centre shall cooperate at all times with the competent authorities of the Member States in order to facilitate the proper administration of justice, to ensure the observance of police regulations and regulations concerning public health and labour inspection and similar legislation, and to prevent any abuse of the privileges, immunities and facilities provided for in this Protocol.
2. The cooperation procedures may be defined in the supplementary agreements provided for in Article 22.

Article 21

The provisions of this Protocol shall not prejudice the right of each Member State to take all precautionary measures necessary in the interests of its security.

Article 22

The Centre may, on decision by the Council acting unanimously, conclude supplementary agreements with any Member State to implement this Protocol and may make any other arrangements to ensure the smooth running of the Centre and the safeguarding of its interests.

Article 23

1. The Centre shall be obliged in all written contracts — other than those concluded in accordance with the Staff Regulations — into which it enters and relating to matters in which it enjoys immunity from jurisdiction,

to include an arbitration clause whereby any dispute arising out of the interpretation or execution of the contract shall, at the request of either party, be submitted to arbitration.

2. The Centre shall be obliged to submit to arbitration, at the request of the injured party, by means of a *compromis* any other dispute arising out of loss or damage caused by the Centre to persons or property.
3. The arbitration clause or the *compromis* shall specify the method of appointing the arbitrators and the third arbitrator, the law applicable and the country where the arbitrators shall sit. The procedure of the arbitration shall be that of that country.
4. The enforcement of the arbitration award shall be governed by the rules in force in the State in which the award is to be enforced.

Article 24

1. Any Member State may submit to the arbitration tribunal provided for in Article 17 of the Convention any dispute:
 - arising out of damage caused by the Centre;
 - involving any other non-contractual liability of the Centre; or
 - involving a staff member or an expert of the Centre and in which the person concerned can claim immunity from jurisdiction under Article 13 or Article 14, if this immunity is not waived in accordance with Article 19.

2. If a Member State intends to submit a dispute to arbitration it shall notify the Director who shall forthwith inform each Member State of such notification.
3. The procedure laid down in paragraph 1 shall not apply to disputes between the Centre and staff members in respect of their conditions of service.
4. No appeal shall lie against the award of the arbitration tribunal, which shall be final; it shall be binding on the parties. In case of dispute concerning the import or scope of the award, it shall be incumbent upon the arbitration tribunal to interpret it at the request of either party.

Article 25

For the purposes of this Protocol:

- (a) 'official activities of the Centre' shall include its administration and its activities carried out in pursuance of its objectives as defined in Article 2 of the Convention;
- (b) 'staff members' shall include the Director of the Centre.

Article 26

This Protocol shall be interpreted in the light of its primary objective of enabling the Centre fully and efficiently to fulfil its objectives and carry out the functions assigned to it by the Convention.

Final Act

The Plenipotentiaries of the High Contracting Parties

assembled at Brussels on 11 October 1973 for the signature of the Convention establishing the European Centre for Medium-Range Weather Forecasts,

have adopted the following texts:

- Convention establishing the European Centre for Medium-Range Weather Forecasts;
- Protocol on the Privileges and Immunities of the European Centre for Medium-Range Weather Forecasts.

ZU URKUND DESSEN haben die unterzeichneten Bevollmächtigten ihre Unterschriften unter diese Schlussakte gesetzt.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries have signed this Final Act.

EN FOI DE QUOI, les plénipotentiaires soussignés ont apposé leurs signatures au bas du présent acte final.

IN FEDE DI CHE, i plenipotenziari sottoscritti hanno apposto la loro firma in calce al presente Atto finale.

TEN BLIJKE WAARVAN de ondergetekende gevolmachtigden hun handtekening onder deze Slotakte hebben gesteld.

Geschehen zu Brüssel am elften Oktober neunzehnhundertdreiundsiebzig.

Done at Brussels on this eleventh day of October in the year one thousand nine hundred and seventy-three.

Fait à Bruxelles, le onze octobre mil neuf cent soixante-treize.

Fatto a Bruxelles, addì undici ottobre millenovecentosettantatré.

Gedaan te Brussel, elf oktober negentienhonderd drieënzeventig.

**Convention establishing the European Centre for Medium-Range Weather Forecasts
(COST 70)¹**

Date of entry into force: 1.10.1975

Duration: unlimited

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	7.5.1973	1.10.1975
Denmark	7.5.1973	1.10.1975
Germany (Fed. Rep. of)	7.5.1973	1.10.1975
France	7.5.1973	1.10.1975
Ireland	7.5.1973	1.10.1975
Italy	7.5.1973	1. 9.1977
Netherlands	7.5.1973	1.10.1975
United Kingdom	7.5.1973	1.10.1975
Greece	7.5.1973	1. 9.1976
Spain	7.5.1973	1.10.1975
Yugoslavia	7.5.1973	1.10.1975
Austria	7.5.1973	1.10.1975
Portugal	7.5.1973	1. 1.1976
Switzerland	7.5.1973	1.10.1975
Finland	7.5.1973	1.10.1975
Sweden	7.5.1973	1.10.1975
Turkey	2.11.1975	1. 5.1976

¹ Not published in the Official Journal.

**Research programme
for a joint project in the field
of materials for superconducting electrical machines**

(COST Project 56)

Research programme for a joint project in the field of materials for superconducting electrical machines

(COST Project 56)

DECLARATION

Pursuant to the discussion of the Committee of Senior Officials on Scientific and Technical Research on 25—26 April and 2 July 1974 on COST Project 56 — ‘Materials for superconducting electrical machines’, the Signatories have agreed on the following declaration:

1. The Signatories propose to carry out joint research in the field described in the Annex or to commission research bodies to do this.
2. Each Signatory shall finance his own research.
3. The Signatories shall appoint a Scientific Committee to coordinate their researches; this Committee shall — without this being legally binding — be responsible for the following matters:
 - (a) drafting recommendations for the selection and allocation of research activities;
 - (b) supervising research and advising the research establishments;
 - (c) exchanging the results of the research while protecting the industrial property rights of all the parties;
 - (d) drawing up the annual reports and the final report to the Signatories.

The Scientific Committee shall adopt its own rules of procedure.

4. The joint research is expected to last three years.
5. For up to six months from the signing of this declaration the authorities or research establishments of other European States which were represented at the COST Ministerial Conference in Brussels on 22 and 23 November 1971, and the European Communities, may declare their participation in the aforementioned joint research.

Done at Brussels 1976

for the Swiss Federal Council by the Head of the Swiss Mission to the European Communities,

for the Austrian Federal Minister for Science and Research by the Head of the Austrian Mission to the European Communities.

ANNEX

Research programme for a joint project in the field of materials for superconducting electrical machines

(1 October 1975)

I. INTRODUCTION

The aim of the research programme is to investigate the properties of the materials which must be developed for the construction of superconducting electrical machines and equipment. This aim is to be achieved by means of cooperation between States in the form of a joint project. Coordination will be the responsibility of a consultative committee to be appointed by the Signatories jointly. The division of duties which this will make possible will reduce the expenditure incurred by the individual Signatories and speed up the compilation of the results of the research.

The joint research is to be carried out by research institutes from industry and the universities. It is expected to last three years. Since each participating country is to finance its own research there is no need for a joint fund.

Cost of the joint project

Using e.g. ten research teams (consisting of one scientist and two assistants) at an annual cost per team of around 60 000 units of account the total annual cost would be approximately 600 000 units of account. If two-thirds of the research was carried out by industrial firms and one-third by university institutes and public funds were used to reimburse the former 50% of the cost and the latter 100%, the annual cost to public funds would be 400 000 units of account and 200 000 units of account to industry.

Subject matter of the research programme

1. Superconductors

(a) Development of manufacturing processes for second generation superconductors (intermetallic composites instead of the niobium-titanium alloys which have been used up to now) in the form of extremely fine filaments.

(b) Study of the behaviour of superconducting materials:

- in magnetic fields variable over time;
- subjected to irradiation with radioactive particles and neutrons.

2. Structural materials

Study of the behaviour of structural materials for superconducting generators at very low temperatures.

3. Insulating materials

Study of the behaviour of insulating materials in the range between room temperature and very low temperatures.

II. JUSTIFICATION OF THE RESEARCH PROGRAMME

1. Superconductors

Present knowledge would suggest that superconductors will be used in electrical engineering in the medium term mainly in the following fields:

- superconducting coils for producing very powerful or very large magnetic fields; these include:
 - magnetic coils for producing magnetic fields up to 250 kOe for physical experiments and tests;
 - coils for large bubble and arc chambers in high-energy physics;
 - torus coils for fusion reactors;
 - coils for MHD generation;
- Levitation magnets for magnetic cushion tracks;
- Superconducting d.c. motors;
- Superconducting cable;
- Superconducting energy-storing devices;
- Superconducting instruments.

Prototypes of most of these machines can be built with the superconductors currently available. These conductors (first-generation superconductors) consist of a large number of NbTi filaments, with a diameter of the order of 10—50 μ embedded in a copper or copper-nickel alloy matrix. The conductors must be cooled by means of liquid helium to a temperature of approximately 5°K and kept at that working temperature.

There are, however, materials with markedly higher critical temperatures and critical magnetic fields than those for NbTi alloys. By using these materials, (their properties are shown in the following table), the range of operating temperatures, and thus the reliability of the machines could be considerably increased or machines could be developed such as torus coils for controlled fusion and guide magnets for accelerators with powerful magnetic fields (~ 80 kOe).

Of all these materials, only the NbTi alloy can be made into very fine filaments without any great difficulties.

Materials	Critical temperature for $H=0$	Critical magnetic field at 4.2°K
<i>1st Generation</i>		
Nb-Ti ¹	9.3° K	120 kOe
<i>2nd Generation</i>		
V ₃ Ga	14.5° K	280 kOe
V ₃ Si	17.1° K	300 kOe
Nb ₃ Sn	18.0° K	240 kOe
<i>3rd Generation</i>		
Nb ₃ Al _{0.8} Ge _{0.2}	20.7° K	410 kOe
Sn _{1.2} Al _{0.6} Mo _{6.35} S ₈	14.2° K	600 kOe

¹ The critical temperature of NbTi 50 alloy under an external magnetic field of 50 kOe is only 6.9°K.

Second-generation superconductors, however, are very brittle and cannot be processed by traditional means. Industrial production in filament form is still in the process of development.

The situation of third-generation superconductors is even more extreme. Research is at present being carried out in universities.

The development of industrial production methods for second-generation superconductors is the major issue in this area and intensive work must be done before reliable materials can be obtained.

Other important problems concern research into the behaviour of the superconducting materials under working conditions such as would be encountered in superconducting machines. Research into the effects of radioactive irradiation and neutrons on materials is also very important, notably with regard to fusion torus coils.

2. Structural materials

Reliable applicable knowledge of the mechanical and physical characteristics of the structural materials is necessary for the safe and economic design of cryogenic equipment and machines.

Of all the various requirements which must be met by structural materials and components (e.g. weight, thermal and electrical conductivity, weldability etc.) mechanical strength is, in all cases where they are used, the most important.

The numerous publications about the properties of materials, in general, provide standard data and guidance. It is well known however that these properties at very low temperatures are influenced in composition by the degree of cold working, temper hardening or hardness. It is for this reason that laboratory tests at the temperature of liquid helium are absolutely necessary. These tests should make it possible to obtain reliable and practical data which, by suitable analogy, can be applied to the strains which occur under actual working conditions. Additional difficulties also arise from the well-known fact that at very low temperatures many materials tend suddenly to become very brittle leading to fractures at stresses well below the 0.2% yield limit. Structural phase transformation and unstable flow behaviour are further factors of uncertainty. This is why prolonged tests at liquid helium temperature are of the greatest importance.

3. Insulating materials

Such problems are also encountered with insulating materials used at very low temperatures. The electrical properties of these materials are usually better at very low temperatures than at room temperature. On the other hand it is absolutely essential to study their mechanical properties at liquid helium temperature. Signs of ageing occur which must be investigated by means of long duration testing and thermal cycling between room temperature and 4.2°K.

The above points indicate that, in addition to superconducting materials, it is imperative to include structural and insulating materials in the project.

III. TECHNICAL DESCRIPTION OF THE PROGRAMME

1. Superconducting materials

Conductors based on NbTi alloys have reached a stage of development which can be considered at least adequate for manufacturing the first prototypes of the various superconducting plants and machines.

The intermetallic composites Nb₃Sn, V₃Ga and V₃Si, whose properties are considerably more favourable and whose critical temperatures and critical magnetic field are higher than those of NbTi, seem to be of decisive importance in the construction of large plant.

The development of such conductors in the form of very fine filaments is, at the present time, the principal goal of the conductor development being carried out in the various firms and university institutes. Considerable work is still necessary if an industrial solution is to be found.

Third-generation superconducting materials still require intensive basic research and are still under study at university level.

Developments of this type are number one items on the programme for this project.

All the abovementioned superconductors, including NbTi, still require further extensive research as regards their behaviour under conditions such as occur in the operation of superconducting plants:

- studies of the behaviour of superconductors when subjected to neutron bombardment (fusion coils);
- studies of the behaviour of superconductors when subjected to irradiation with charged particles (beam-guide magnets in accelerators);
- studies of the behaviour of superconductors when subjected to vibration (superconducting machines);
- studies of the behaviour of superconductors in magnetic fields variable over time (all uses);
- studies of the behaviour of superconductors in pulsed fields (fusion coils, particle accelerators, magnetic cushion tracks).

2. Structural materials

Precise details are required concerning the behaviour, properties and resistance to fatigue of these materials at liquid helium temperature.

Information about the mechanical properties are available for austenitic steels for example, but all too little is known about their other properties, such as their thermal and electrical conductivity and resistance to fatigue.

The programme therefore comprises first and foremost:

- a study of the properties of a number of metallic materials at very low temperatures down to 4.2°K.

As well as determining the characteristic values for the materials, the following should also be carried out:

- studies of signs of fatigue when subject to continuous loading at very low temperatures;
- thermal cycling between room temperature and that of liquid helium (300°K to 4.2°K);
- studies of the mechanical behaviour of welds at very low temperatures.

3. Insulating materials

In the case of these materials, not enough is known in particular about their mechanical properties at very low temperatures and their ageing at such temperatures.

The main points of the programme are:

- studies of the mechanical and electrical properties of insulating materials over the temperature range from 300°K to 4.2°K;
- studies of signs of ageing at 4.2°K;
- studies of thermal contraction during the cooling-down process.

Further points could be as follows:

- studies of the influence of the use of such materials at very low temperatures in high vacuum;
- studies of materials for rotating seals over the temperature range 300°K to 4.2°K.

IV. SUMMARY OF POSSIBLE POINTS FOR THE PROGRAMME

The following list of possible points for the programme can still be added to.

1. Superconducting materials

- 1.1 Development of industrial manufacturing processes for second-generation A15 superconductors in the form of filaments.
- 1.2 Further development of third-generation superconductors.
- 1.3 Studies of the behaviour of superconductors when subjected to neutron bombardment.
- 1.4 Studies of the behaviour of superconductors when subjected to radiation with charged particles.
- 1.5 Studies of the behaviour of superconductors when subjected to vibration.
- 1.6 Studies of the behaviour of superconductors in variable magnetic fields and improvement of their conduction properties.
- 1.7 Studies of the behaviour of superconductors in pulsed fields and improvement of their conduction properties.

2. Structural materials

- 2.1 Studies of the properties of metallic materials at 4.2°K, in particular of austenitic steel after being worked.
- 2.2 Studies of signs of fatigue under continuous load at very low temperatures.
- 2.3 Measurement of the thermal and electrical conductivity of materials at very low temperatures.

2.4 Thermal cycling between room temperature and the temperature of liquid helium (300°K to 4.2°K).

2.5 Studies of the mechanical behaviour of welds at 4.2°K.

3. Insulating materials

3.1 Studies of the mechanical and electrical properties of insulating materials over the temperature range 300°K to 4.2°K.

3.2 Studies of the stability of these materials by continuous testing at 4.2°K.

3.3 Studies of signs of ageing at 4.2°K.

3.4 Studies of the contraction of insulating materials during the cooling-down process.

4. Further possible points for the programme

4.1 Studies of the influence of the use of the materials over longer periods of time at very low temperatures in high vacuum.

Research programme for a joint project in the field of materials for superconducting electrical machines (COST 56)¹

Date of entry into force: 10.6.1976

Duration: 9.6.1982

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Austria	10.6.1976	10.6.1976
Switzerland	10.6.1976	10.6.1976

¹ Not published in the Official Journal.

**Memorandum of Understanding
on the implementation of a European project
on redundancy reduction techniques
for visual telephone signals**

(COST Project 211)

Memorandum of Understanding on the implementation of a European project on redundancy reduction techniques for visual telephone signals

(COST Project 211)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on redundancy reduction techniques for visual telephone signals, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research and development in the field of redundancy reduction techniques for the transmission of visual telephone signals.
2. The main objective of the project is to examine the possibilities of applying redundancy reduction techniques to the digital transmission of visual telephone signals in the context of possible standards for long distance communications, including international communications, with the aim of providing effective and economical digital transmission by appropriate optimization of software and hardware.
3. A general description of this research programme is set out in Annex II.

The Signatories hereby declare their intention of carrying out the research programme jointly, in accordance with the breakdown indicated in Annex II, adhering as far as possible to a timetable to be decided by the Committee referred to in Annex I.

The project will be carried out through concerted action, according to the provisions of Annex I.

The cost of this programme is estimated at approximately 2 million units of account¹ at 1976 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project:

- (a) by carrying out directly studies, research and development in their technical services or public research establishments (hereinafter referred to as 'public research establishments'); or
- (b) by concluding contracts for studies, research and development with organizations (hereinafter referred to as 'research contractors'); or
- (c) by cooperating in field trials and assessing the results; or
- (d) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect for 3 years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.

¹ The unit of account used is that defined in Article 10 of the Financial Regulation of 25 April 1973 applicable to the general budget of the European Communities (see OJ L 116, 1.5.1973, p. 1).

3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the other Signatories at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will be open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.
2. After this period of six months has elapsed, applications from the Governments referred

to in paragraph 1 or from the European Economic Community to sign the present Memorandum will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or agencies¹ to act on its behalf both in respect of the implementation of the programme and in respect of the ensuing rights and obligations.

Section 5

This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified true copy to each of the Signatories.

¹ The phrase 'competent public authorities or agencies' does not include industrial undertakings.

Geschehen zu Brüssel am einunddreissigsten März neunzehnhundertsiebenundsiebzig.

Done at Brussels on the thirty-first day of March in the year one thousand nine hundred and seventy-seven.

Fait à Bruxelles, le trente et un mars mil neuf cent soixante-dix-sept.

Fatto a Bruxelles, addì trentuno marzo millenovecentosettantasette.

Gedaan te Brussel, de eenendertig maart negentienhonderd zevenenzeventig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee') will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he may need.

As long as the European Economic Community is not a Signatory to this Memorandum of Understanding, a representative of the Commission of the European Communities may attend Committee meetings as an observer.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

- (a) drawing up detailed plans for the different phases of execution of the project;
- (b) the choice of research topics, including any changes in those provided for in Annex II and the selection of topics from the proposals submitted by the competent public authorities or agencies of the Signatories;
- (c) advising on the direction that work should take;
- (d) keeping abreast of the research being done in the territory of the Signatories and in other countries;
- (e) exchanging research results to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or agencies, and research contractors in respect of industrial property rights and commercially confidential material;
- (f) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate;
- (g) dealing with any problems that may arise out of the execution of the project, including if necessary special conditions to be attached to applications to sign this Memorandum of Understanding more than six months after the date of the first signature.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to the competent public authorities or agencies of the Signatory to which they belong. Such public authorities or agencies will submit the proposals they accept to the Committee.
2. Signatories will require public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public authorities or agencies referred to in paragraph 1 a notification of previous commitments and industrial property rights of which they are aware and which might preclude the fulfilment of the projects of the Signatories under this Memorandum of Understanding.

III

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.

2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have a much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter called 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and to supply the technical know-how necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of this project; or
- the applicant Signatory's projects relating to telecommunications or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will accordingly insert clauses requiring the granting of the licences referred to in paragraph 1 in any contract which they place with research contractors for study, research and development work to be carried out in the execution of this project.
3. Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to above to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Chapter II (2), and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purposes referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position.
4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of the present Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the present Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of this Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the work planned for the project

1. The participants in the project will simultaneously undertake and will coordinate research and development work with the aim of applying redundancy reduction techniques to the digital transmission of visual telephone signals.

They will exchange information and will compare results achieved.

2. Research work to be undertaken in the framework of the project will be in essence the same in all participating countries and will concentrate mainly on:

(a) implementation of experimental (prototype) equipment, including networks for field trials using such equipment. Each participating country will set up its own test installation in order to test its own ideas and those of other countries according to criteria defined in agreement;

(b) development of subjective and objective criteria for comparison and evaluation of equipment performances; application of these criteria to the experimental equipment in order to evaluate its performance and gradually to evolve preferred methods;

(c) studies of economics and cost effectiveness.

Some countries have previous experience and so will be able to contribute their particular expertise.

3. In view of the fact that the most promising redundancy reduction method is that of frame-to-frame coding operating at the lower standardized speed of transmission of 2.048 Mbit/s, the following work will have to be carried out in particular:

— examination of the various existing possibilities of frame-to-frame coding (including technical, economic and organizational aspects);

— evaluation and, where possible, measurement of the performance of corresponding systems and implementation of versatile equipment;

— definition of the requirements of picture processing in respect of subject movement;

— optimization of the different sub-units (prediction, movement detection, coding, addressing, buffer memory, etc.);

— study of efficient error correction techniques;

— study of the problems of frame-to-frame coding in connection with standards conversion for higher definition presentation;

— study of the problems of frame-to-frame coding in connection with analog transmission links;

— selection of a particular system for further test and field trials.

It is intended that the outcome of the project will be a useful contribution towards implementation of an economic visual telephone service and the advancement of a common standard throughout Europe.

4. For the implementation of experimental work the participants in the project will set up laboratory equipment of versatile structure that will permit implementation and evaluation of a constantly updated version of the objective. The expenditure of resources will be about the same for each participant country.

The project will be divided into three phases.

Phase I

Review of techniques already under study in participating countries for the reduction of redundancy in the digital transmission of visual telephone signals. Identification of other possible techniques which should be considered in the context of the objective of the project.

Phase II

Development of criteria for the comparison and evaluation of techniques identified in Phase I. Specification of the activities and time schedule for the collaborative work defined in paragraph 3. In doing this, aspects of economics and cost effectiveness will have to be considered in the context of achieving practical systems for national networks and their interconnection.

Phase III

Performance of the collaborative activities specified in Phase II.

Phase I comprising the review of present work and identification of other possible techniques will involve the participation of all interested authorities and could be completed in a few months.

Time-scales for Phases II and III will be established at the end of Phase I. These time-scales should be consistent with the CEPT study report (cf. COST/58/73), but the timing of R & D work may need to be reviewed and adjusted in accordance with the results of the CEPT/ELT Group activities.

5. The determination of further technical details of the programme of work will be the responsibility of the Signatories acting through the Management Committee.
6. In most cases, the project will be carried out under the guidance of the national telecommunications authorities of the participating countries. Acting on their behalf will be their research organizations. The telecommunications authorities may associate other suitable research institutes or industrial firms.

Each national telecommunications authority will be responsible for all the work carried out in its country by public or private laboratories.

**Memorandum of Understanding on the implementation of a European project on
redundancy reduction techniques for visual
telephone signals (COST 211)¹**

Date of entry into force: 31. 3. 1977

Duration: 30. 3. 1980²

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	31. 3. 1977	31. 3. 1977
Germany (Fed. Rep. of)	31. 3. 1977	31. 3. 1977
France	31. 3. 1977	31. 3. 1977
Italy	1. 2. 1978	1. 2. 1978
Netherlands	18. 5. 1977	18. 5. 1977
United Kingdom	31. 3. 1977	31. 3. 1977
Sweden	31. 3. 1977	31. 3. 1977

¹ Not published in the Official Journal.

² Extended until 30.3.1982.

**Memorandum of Understanding
on the implementation of a European project
on electronic traffic aids
on major roads**

(COST Project 30)

Memorandum of Understanding on the implementation of a European project on electronic traffic aids on major roads

(COST Project 30)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European project for the development of electronic traffic aids on major roads, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research and development in the field of electronic traffic aids on major roads with the aim of studying the various techniques developed to this end, and their compatibility. This project is also intended to ensure that these various methods are made available, as far as possible, in all the countries signatory to this Memorandum, the ultimate aim being to work towards the possible establishment of a standard European system in this field.
2. The project will be concentrated primarily on research into, and development of, methods of communicating with drivers and the selection and development of prototypes to be used for this purpose.
3. A general description of this research programme is set out in Annex II.

The Signatories hereby declare their intention of carrying out the research programme jointly, in accordance with the breakdown indicated in Annex II, adhering as far as possible to a timetable to be decided by the Committee referred to in Annex I.

The project will be carried out through concerted action, according to the provisions of Annex I.

The cost of this programme is estimated at approximately 5 million units of account¹ at 1976 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project:

- (a) by carrying out directly studies, research and development in their technical services or public research establishments (hereinafter referred to as 'public research establishments'); or
- (b) by concluding contracts for studies, research and development with organizations (hereinafter referred to as 'research contractors'); or
- (c) by seconding experts or supplying any other service; or
- (d) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by

¹ The unit of account used is that defined in Article 10 of the Financial Regulation of 25 April 1973 applicable to the general budget of the European Communities (see OJ L 116, 1.5.1973, p. 1)

at least five Signatories. It may be extended by arrangement between the Signatories.

2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the other Signatories at least three months beforehand.
4. If at any time the number of Signatories falls below five, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will be open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministe-

rial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign the present Memorandum will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.
3. Any Signatory may designate one or more competent public authorities or agencies¹ to act on its behalf, both in respect of the implementation of the programme and in respect of the ensuing rights and obligations.

Section 5

This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified true copy to each of the Signatories.

¹ The phrase 'competent public authorities or agencies' does not include industrial undertakings.

Geschehen zu Brüssel am einunddreissigsten März neunzehnhundertsiebenundsiebzig.

Done at Brussels on the thirty-first day of March in the year one thousand nine hundred and seventy-seven.

Fait à Bruxelles, le trente et un mars mil neuf cent soixante-dix-sept.

Fatto a Bruxelles, addì trentuno marzo millenovecentosettantasette.

Gedaan te Brussel, de eenendertig maart negentienhonderd zevenenzeventig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee') will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he may need.

As long as the European Economic Community is not a Signatory to this Memorandum of Understanding, a representative of the Commission of the European Communities may attend Committee meetings as an observer.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:
 - (a) the choice of research topics, including any changes in those provided for in Annex II and the selection of topics from the proposals submitted by the competent public authorities or agencies of the Signatories with the aim of standardizing electronic traffic aids on European major roads;
 - (b) keeping abreast of the research being done in the territory of the Signatories and in other countries;
 - (c) exchanging the research results to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or agencies, and research contractors in respect of industrial property rights and commercially confidential material;
 - (d) advising the research contractors on the direction that work should take;
 - (e) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate;
 - (f) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign this Memorandum of Understanding more than six months after the date of the first signature.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to the competent public authorities or agencies of the Signatory to which they belong. Such public authorities or agencies will submit the proposals they accept to the Committee.
2. Signatories will require public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public authorities or agencies referred to in paragraph 1 a notification of previous commitments and industrial property rights of which they are aware and which might preclude the fulfilment of the projects of the Signatories under this Memorandum of Understanding.

III

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.

2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have a much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them pursuant to Annex II (hereinafter called 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to grant to the applicant Signatory or a third party nominated by the applicant Signatory, a licence to use the research results and to supply the technical know-how necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:
 - work in respect of this project; or
 - the applicant Signatory's projects relating to traffic on its major roads; or
 - any associated European project undertaken subsequently to develop electronic traffic aids on major roads, in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will accordingly insert clauses requiring the granting of the licences referred to in paragraph 1 in any contract which they place with research contractors for study, research and development work to be carried out in the execution of this project.
3. Signatories will make every effort, in particular by including clauses in contracts placed with research contractors, to provide for the licence referred to above to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Chapter II(2) and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purposes referred to in paragraph 1 above would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position.
4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of the present Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the present Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of this Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

Technical annex to the Memorandum of Understanding

INTRODUCTION

1. This technical Annex presents the research programme currently regarded as necessary. It also refers to the research in hand or planned in various countries. Such research contributes substantially towards the implementation of the programme. The figures given for costs are estimates. They cover the work required to achieve the research described in the topics.
2. This research programme is to cover a period of three years.

The advisability of proceeding to a demonstration or any other important test will be assessed after two years and a report will be drafted in this connection. This report will comprise cost analysis and a timetable.
3. Other contributions still need to be decided on if the desired objectives are to be attained. Furthermore, new research proposals relating to the objectives of the programme may be incorporated in it.

TOPIC 1

Local aural communication inside vehicles

1. Aims

To define and develop a local aural communication system intended for motor vehicles and suitable for standardization at European level.
2. Programme
 - 2.1 In conjunction with Topic 5, study of the respective advantages of the fixed and mobile transmitter systems.
 - 2.2 Development of message-storage devices (cassettes, digital devices, etc.).
 - 2.3 Operation of high-frequency loop or single-wire aerial systems under different environmental conditions: metal bridges, snow, salt water, etc.
 - 2.4 Operation of radiative coaxial cables at VHF-UHF in different environmental conditions; study of the 'triaxial' cables tested in Los Angeles.
 - 2.5 Interference between transmitting stations working in several languages.
 - 2.6 Influence of vehicle noise on message intelligibility.
 - 2.7 VHF and UHF transmission in tunnels.
 - 2.8 Effects of aural communications on the driver. Comparison with the internal visual system in conjunction with Topic 2.
 - 2.9 Discussions with the CEPT to obtain frequency bands that could be used for these systems on a European scale.
3. Timetable

The research programme on Topic 1 is virtually at a standstill for the time being, because the participating countries feel it is preferable to wait for the results of

research on Topic 5 before continuing the development of equipment for local aural communication with vehicle drivers.

In these circumstances, this research programme will not start until towards the end of 1977 and should then carry on for about 18 months.

Only section 2.7 (transmission in tunnels) is currently being studied (in Belgium).

4. Cost: About 0.6 M UA at 1976 prices.

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, Belgium, Italy, United Kingdom and France (coordinating country).

6. National research programmes

6.1 *United Kingdom*

1. A prototype storage device for aural messages in solid state has been developed. More detailed research is still required on sentence formation, word selection, and the effects of the band width of the signal and noise on message comprehension.

2. Tests on a low frequency inductive loop have been carried out in the following conditions:

- Loop placed on road surface;
- Loop and single-wire aerial buried in soil;
- Loop suspended from steel safety barrier.

3. Prototype low-frequency transmitter-receivers have been designed and built.

4. Tests on coaxial cables have been carried out at low, medium and very-high frequency in normal environmental conditions.

A study of the influence of environmental conditions on motorways must still be carried out.

5. Measurements have been made of the noise spectra encountered in various types of vehicles, and of the effects on intelligibility of the reduction of the spoken message band width when the vehicle is in motion.

6. Laboratory tests have been carried out in order to compare the degree of attentiveness of drivers to aural and visual messages.

The effect of aural routing information has been tested on a small scale on drivers in town.

7. Enquiries are being made with the police authorities to estimate their mobile transmitter communication requirements.

8. Future programme:

All these studies mentioned above have been completed or are in process of completion.

No new research programme is planned in the immediate future on Topic 1.

6.2 *Federal Republic of Germany*

1. An HF loop system has been tested in the Hanover area since 1964.

2. Studies have also been made on the utilization of VHF or UHF frequencies for local communication systems, but have produced no results yet. The railway

authorities have been experimenting with transmission by radiative coaxial cable in the UHF-VHF range, and have obtained good results.

3. Future programme:

No research programme is planned in the immediate future.

6.3 *Italy*

1. Tests are being carried out on the motorway with loops on the 108 KHz frequency, in tunnels and on a viaduct. In tunnels, the results were very good. On the viaduct, tests showed that the loop would have to be installed at a certain height above the ground (about 1 m).

2. Tests have also been carried out in the 450 KHz range, and in the 168 MHz with a transmitter equipped with a Yagi aerial.

3. Future programme:

It is planned to equip a section of the motorway with an experimental communication system operating at low frequency with single wire aerials.

6.4 *Belgium*

1. Research has been and is being carried out on the transmission of information to drivers in tunnels.

2. Future programme:

It is planned to equip a section of the motorway with:

- message-storage systems;
- radiative coaxial cables;
- transmission in tunnels.

6.5 *France*

Two types of system have been studied:

1. Transmission loop or single wire aerials in the 100 KHz band (PAAC system).

2. Transmission by point transmitter in the VHF range (80 MHz):

- in amplitude modulation (BIP-CAR system);
- in frequency modulation (SILAUE system).

3. However, after discussion with the PTT authorities on the possibility of using these frequencies, work was directed towards the study of mobile systems operating in UHF (450 MHz band). Two systems are being studied and have reached the prototype stages:

- a system based on the SILAUE system on 450 MHz;
- a PAAC No 2 hybrid system capable of operating at high frequency (100 KHz) and UHF (450 MHz) which would allow its use with fixed or mobile transmitters.

4. Future programme:

This research is completed. No new programme is planned before the end of 1977.

TOPIC 2

Internal visual communication

1. Aims

To define and develop any in-vehicle visual communication equipment which is shown by an evaluation of information and communication requirements to be necessary.

2. Programme

Equipment development has been carried out in Germany and the United Kingdom which has demonstrated the ability to communicate with drivers by means of a visual display inside the vehicle.

A small amount of further research has been carried out in the United Kingdom to determine whether the display can be read in various driving conditions. However it is considered that further research activity on this topic is inappropriate until the results of the Topic 5 programme are available.

The Topic 5 programme will be looking at the requirements for communication of both traffic and route guidance information. It is considered likely that an in-vehicle visual system would be required if an electronic route guidance system were shown to be necessary and justified.

In this case some further development of the equipment would be required particularly with respect to the most appropriate modulation technique for data transmission and to the visual display design. The ability of drivers to read and comprehend route guidance information whilst driving would need to be investigated.

3. Timetable

Depends on the outcome of work on Topic 5.

4. Cost

About 0.1 M UA at 1976 prices.

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, France, Italy and United Kingdom (coordinating country).

TOPIC 3

Variable signs outside the vehicle (VSOV)

1. Aims

Chapter 16 of the final report (Document III/144/73-D-COST/42/73) recommends a 'preferred method' for adoption as a European practice for roadside information, including optical signs (variable signs outside the vehicle, VSOV). Section 3 of this Chapter provides for an examination of the extent and type of information which should be conveyed to the driver by the system, in this case particularly by means of VSOVs.

This project is likewise being dealt with by Study Group 5, whose findings will have implications for Topic 3. To enable both groups to work in parallel, certain assumptions concerning requirements for VSOVs must be made.

The present document sets forth the work and research which now appears necessary; it may be expanded where required.

The cost estimates are to be considered as indicative and not absolutely comparable; in particular, it is not clear whether they are R & D costs or infrastructure costs or both. It is assumed that the information and signs given in Sections 5.5 and 5.6 of COST/19/74 will be displayed by means of VSOVs. Variable route signs are also to be included in the discussions.

It is assumed that the information and signs given in Sections 5.5 and 5.6 of COST/19/74 will be displayed by means of VSOVs. Variable route signs are also to be included in the discussions.

Initially, it is not the technical design (construction) of the display equipment but the sign itself (symbols) and the general requirements for VSOVs which should be standardized. This will prevent any one technological development being regarded as final and new developments being ruled out. Trials and research will show the level at which requirements should be set, and whether preferred forms of construction are to be recommended for particular applications. For example, mandatory and prohibitory signs carrying legal penalties must comply with the Vienna Convention.

2. Programme

To complete the tasks mentioned in Section 1, the following work is required:

2.1 Symbols to be displayed

Data on how the information and requirements of the traffic regulations contained in COST/19/74 are to be displayed (words, symbols, signs) must be collated.

2.2 Survey of variable message signs seen to be desirable including variable route signs.

2.3 Study of the psychology of perception and physico-technological checks

2.3.1 Study on the psychology of perception:

- (a) verification of recognizability, legibility and comprehensibility;
- (b) investigation of the value of giving additional information.

2.3.2 Physico-technical tests:

Study of the technical characteristics and operational safety of VSOVs under various conditions, e.g.:

- reliability
- ease of maintenance
- power consumption
- behaviour in the event of vehicle collisions
- covering of symbols by frost or snow
- length of changeover times
- feedback signals in the event of partial or total breakdowns
- acknowledgement signals for completed changeover operations
- situation of signs in power failures (emergency power supply or mechanical roll-back to neutral position)
- reliability in extreme conditions
- viewing distance:

- (a) recognizability as a traffic sign,

- (b) legibility distance,

- visibility from various viewing angles
- effectiveness in all light conditions (day and night)
- capacity for accommodating characters.

2.4 Formulation of general requirements for VSOVs:

2.4.1 Requirements regarding recognizability, legibility and comprehensibility.

2.4.2 Requirements regarding changeover times and reliability in operation.

2.5 Effectiveness of the appropriate VSOV on individual road users.

2.6 Effects of VSOVs on traffic flow.

2.7 Proposal for suitable intervals between VSOVs; the optimum number of VSOVs per cross section.

2.8 Recommendations on specifications for European standards in respect of VSOV performance.

3. Timetable

Serial No	Category	1976	1977	1978
1	2.1	→		
3	2.1	→		
2	2.1/2.6	→		
4	2.2	→		
5	2.3	→		
6	2.3	→		
10	2.3.1 (a)	→		
11/12	2.3.1 (b)	→	→	
13	2.3.2	→	→	
15		→	→	
16-18	2.5/2.6	→	→	
19	2.6	→	→	
	2.7	→	→	
	2.8	→	→	
20	2.3.2	→	→	

4. Cost: Approximately 1.375 M UA at 1976 prices.

5. Participating countries:
the active participation of the following countries is planned: Belgium, France, Netherlands, United Kingdom and Federal Republic of Germany (coordinating country).

6. National research programmes

Ser. No	Problem No	Topic	Research Establishment	Commissioned by	Cost	Date
1	2.1	Investigation of variable route-sign equipment in connection with a new route-sign system for motorways	BAST	BMV(D)		1972- (probably 1976)
2	2.1 and 2.6	Investigation of supplementary variable routing	BAST	BMV		1975—1977
3	2.1	Development of new informatory symbols (for message concepts given in COST/19/74)	TRRL	UK	approximately 2 000 UKL 3 500 UA	1976
4	2.2	Development of additional matrix panel giving supplementary information	TRRL	UK	8 000 UKL 13 500 UA	1973—1976
5	2.3	Comparative tests of visibility of VSOVs operating on matrix and roller blind principles. Maximum viewing distances will be compared in various weather and visibility conditions	TRRL	UK	11 000 UKL 18 500 UA	1974—1976 (in principle, completed)
6	2.3.1	Psychological evaluation of VSOV system	Prof. Erke	(D)		1977—1978
7	2.3.1 (a)	— Tests on understanding of new informatory symbols			3 000 UKL 5 000 UA	
8		— Tests on understanding of complete three part (instruction, information, distance) sign	TRRL	UK	3 000 UKL 5 000 UA	1976
9	2.3.1 (a)	— Investigation of effect of enclosing shape			3 000 UKL 5 000 UA	
10		— Measurement of perception (comprehension) time of three part sign (with distraction)			3 000 UKL 5 000 UA	
11	2.3.1 (b) 2.5 and 2.6	Full-scale road demonstration on a 24 km stretch of a three-lane motorway in the UK in order to gain information concerning the type of fog, blocked traffic lanes and recommended maximum speeds	TRRL	UK		from 1976
12	2.3.1 (b)	Public road trial	TRRL	UK		
13	2.3.2	Practical testing of variable road signs (for details see Doc. III/601/74) and IRT report No 2 and SETRA report of 29 March 1976	IRT	SETRA (F)	70 000 FF 13 500 UA	since 1974 permanent study
14	2.3.2	Investigation of the effect of dirt accumulation on legibility of matrix sign Comparison of legibility of matrix and roller-blind signs in fog	TRRL	UK	approx. 3 000 UKL 5 000 UA 3 000 UKL 5 000 UA	1976
15	2.3.2	Survey of types of tests to be carried out for changeable signs	Rijks-waterstaat	NL		in progress
16	2.5 and 2.6	Drivers' reaction to matrix signs showing 90/70/50/30 as warnings for traffic congestion	Rijks-waterstaat	NL		Monthly measurements

Ser. No	Problem No	Topic	Research establishment	Commissioned by	Cost	Date
17	2.5 and 2.6	Includes study of drivers' behaviour when confronted with VSOVs for various speeds (for details see Doc. III/774/74)	IRT	F	1.9 Mio FF 365000 UA	1973—1976
18	2.5 and 2.6	Investigation of the effect on traffic and the potential uses of congestion warning systems	BAST	BVM	2.5 Mio DM 893000 UA	
19	2.6	Investigation of the use of permanent light signals to demonstrate motorway lanes	BAST	BVM		
20	2.3.2	Vibration, endurance and climatic tests; legibility measurements	IRT	F	200000 FF 38500 UA	1976—1977
21	2.6	Regulation of traffic by variable signs outside the vehicle	MTP	B		

TOPIC 4

Area broadcast of traffic information

1. Aims

The aim in this phase of the work is to investigate which basic requirements should be met by a system for area broadcasting of traffic information, if possible on a European scale.

Once these basic requirements are known, specifications will be given for the design and implementation of such a system.

2. Programme

- Inventory on structure and organization for traffic information in several European countries (including technical solutions/suggestions for transmission);
- standardization of traffic announcements regarding:
 - content of announcements,
 - circumstances and criteria on which announcements are transmitted or rejected;
- survey to examine drivers' response to traffic information;
- assessment/listing specifications for technical design and for implementation/running a system for area broadcasting of traffic information.

The following list of items should be contained in the requirements for an area broadcasting system for traffic information:

- (1) The number of messages the system should be capable of handling; the number of messages is influenced by:
 - the necessary repetition of certain messages and by clearance messages;
 - the criteria on which messages are rejected or transmitted, i.e. by the relevance of traffic and environmental conditions;
 - what the peak rate will be.

- (2) The average duration of a message:
 - this question may be affected by the multilanguage problem.
- (3) The size of an area:
 - this is determined by message contents and average trip-length.
- (4) Whether the system should handle more than one language:
 - due to geographic location of the country in connection with international traffic;
 - in case of multilingual nations.
- (5) Priority of messages (i.e. acceptable time delay before transmission):
 - depending on relevance of traffic and environmental conditions;
 - need to give strategic and/or tactical messages.
- (6) Long range strategic information between countries.
- (7) How area-information should overlap.
- (8) What form of control/distribution facilities of messages should be available.
- (9) Maximum amount of information a driver can accept, and other ergonomic aspects, including the possible standardization of the structure of the messages in order more especially to facilitate translation.
- (10) Reliability and credibility:
 - consistency with road based systems:
 - external visual,
 - in-car aural,
 - in-car visual.

The system should be set up in order to reach as many people concerned as possible, both at home and on the road. To what extent do we need to help the listener to get the information and what does it mean from the traffic engineering point of view if only some of the drivers (e.g. native speakers only) can get the information?

3. Timetable

3.1 Establishment of state of the art (sections 2.1 to 2.4 of the programme)
Estimated duration: mid-1976.

3.2 Supplementary work and final details (essentially section 2.5 of the programme) Beginning: mid-1976. End: mid-1977.

3.3 Establishment of report and conclusions (according to objectives) Second half of 1977.

4. Cost: 237 000 UA at 1976 prices.

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, United Kingdom, Switzerland, France, Sweden and the Netherlands (coordinating country).

TOPIC 5

Survey of information needs

1. Aims

To determine the possible advantages for road use of the various driver communication and route guidance systems now under study. To evaluate the needs felt by road users and authorities in this field.

2. Programme

2.1 To evaluate the nature and frequency of incidents which cause hazard or delay on roads which could be equipped with a communication or route guidance system.

2.2 To evaluate the number, duration and scale of incidents in which the hazard or delay might usefully be reduced by a communication or route guidance system. (This point must be studied in conjunction with Topic 6).

2.3 To determine the type of information and the related operational means needed to cope with such incidents and which could be provided by communication and route guidance systems.

2.4 To study the type of information which the public at present believes is desirable from:

- the various communication systems studied;
- a route guidance system.

2.5 To study the type of information which the responsible road traffic and maintenance authorities consider it useful to communicate to drivers and the means of communication they regard as best suited to their needs.

3. Timetable

Study	1976	1977	National contributions
2.1	_____		F, UK
2.2	_____		F, UK, D
2.3	_____		F, UK
2.4	_____		F, UK
2.5	_____		F, UK

4. Cost: Approximately 0.2 million UA at 1976 prices.

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, Italy, Netherlands, United Kingdom and France (coordinating country).

6. National research programmes

6.1 United Kingdom

6.1.1 A survey was carried out among 500 motorway drivers in Berkshire to determine the information they required about disturbances to traffic flow, and the way in which they understood messages on illuminated matrix panels.

6.1.2 A survey has also been conducted on roads and motorways in an area west of London to determine the number of traffic incidents which have caused disturbances in this area over a certain period of time.

6.1.3 A preliminary study, covering 50 subjects, of route guidance requirements has been carried out between the TRRL and Chertsey.

The study showed that road users did not generally choose the optimum traffic routes.

6.1.4 Future programme: the following studies are planned for the period 1976—77:

6.1.4.1 A more general survey among drivers to assess their information requirements on motorways and roads;

6.1.4.2 An enquiry with the police authorities to examine the communication they require with drivers on roads other than motorways;

6.1.4.3 Assembly of data on frequency, duration and scale of incidents;

6.1.4.4 At the end of this study, drafting of specifications on drivers' information requirements;

6.1.4.5 A programme on drivers' route planning is also to be launched with the following objectives:

- to determine the extent to which the routes chosen by drivers deviate from the optimum route;
- to study the nature of these deviations;
- to define politically acceptable and economically worthwhile methods whereby these deviations could be reduced.

In addition to the Chertsey experiment just described, the programme also includes:

- (a) an experiment concerning the choice of routes by regular road users;
- (b) national-scale assessment of economic losses due to the fact that route selection is not optimum;
- (c) study of methods whereby these economic losses could be reduced;
- (d) drafting of a report on the advantages of a route guidance system.

6.2 Switzerland

Work has just been completed on the assessment of the number and effects of traffic flow disturbances on a network of heavy traffic roads and motorways.

6.3 France

6.3.1 A study was carried out in 1974—75 on the number and nature of traffic incidents affecting a network of main roads (*routes nationales*) and motorways in south-east France.

6.3.2 Future programme

The following work is planned for 1976—77:

1. A survey of drivers' needs, comprising:

- a preliminary analysis of requests put by road users to the various information authorities, and a preliminary survey of a particular sample of such users;
- a more detailed survey on a broader scale among road users.

2. A study of the requirements of highway management authorities based on surveys among the following:

- gendarmerie detachments;
- motorway operating headquarters.

3. A study of the possibility of carrying out comparative laboratory tests of drivers' acceptance of messages in visual and aural form.

TOPIC 6

Incident detection

1. Aims

The objectives are to evaluate the need for manual incident detection (MID) as well as automatic incident detection (AID) systems and to develop procedures and guidelines regarding selection, design, installation and operation of such systems for different applications on major roads.

European cooperation in this field is worthwhile in order to avoid duplication of efforts although strict standardization of system components is not envisaged.

2. Programme

The work can be divided into the following main parts:

2.1 Collection and exchange of information:

1. Continuous updating of the current state of the art;
2. Preparation and distribution of fact sheets on important news;
3. Exchange of information with research centres outside Europe (mainly USA and Japan).

2.2 Studies of the demand for and benefit of incident detection systems:

1. Definition of what should be considered as an incident;
2. Studies of frequency and duration of different types of incidents and related consequences on traffic flow and safety (to be carried out in relationship with Topic 5);
3. Studies of management and clearance of incidents and related benefits in travel and time saving.

2.3 Studies of MID-systems:

1. Studies of design and management of different manual systems such as highway patrols, call-boxes, citizens band radio, etc.
2. Studies of the frequency of usage, false-alarm rate and response time;
3. Analysis of the benefits and cost of MID-systems for different applications.

2.4 Studies of AID-systems:

1. Development of algorithms for AID and theoretical analysis of relationships between response time, false-alarm probability, probability of detection of incidents and type spacing of detectors;
2. Field experiments with AID. Verification of the theory;
3. Analysis of the benefit and cost of AID-systems for different applications.

2.5 Procedures, guidelines and specifications:

1. Minimum requirements for incident detection (ID) systems;

2. Procedures and guidelines for selection of ID-systems;
3. Methods for calculation of cost-effectiveness and estimation of overall benefit of ID;
4. Specifications for ID-systems to be used in the demonstration project (subject to special approval).

2.6 Documentation

— Preparation and publication of a report and recommendations.

3. Timetable

This timetable also shows where current research corresponds to the programme as planned.

Item	Time schedule			National contributions according to programme ¹
	1976	1977	1978	
(a) Collection and exchange of information	→			Point 2.1 1) (F.1—2 2) (D.2 NL.2 3) (S.1
(b) Studies of demand and benefit of ID-systems	→			Point 2.2 1) (S.2 2) (F.2 S.2 3) (D.1
(c) Studies of MID-systems	→			Point 2.3 1) (F.3 D.1 S.2 2) (D.1 S.2 3)
(d) Studies of AID-systems	→			Point 2.4 1) (F.1—2 D.2 (NL.2 S.1 UK. 2) (B.2 F.1—2 (D.2 3) (NL.1—2 S.1 (UK
(e) Procedures, guidelines and specifications	→			Point 2.5 1) (F.3 D.2 2) (F.3 D.2 3) 4)
(f) Report				

4. Cost

The total cost of research in hand is estimated at 0.3 M UA. Further research must still be launched over the next three years if aims are to be achieved and its cost is also estimated at 0.3 M UA; current inadequacies mainly concern items 2.2.3, 2.3.1—3, 2.4.3 and 2.5.1—4 of the programme.

Total cost at 1976 prices: 0.6 M UA.²

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, Belgium, France, Italy, Netherlands, United Kingdom, Switzerland and Sweden (coordinating country).

6. National research programmes

¹ The indications in this column (F.1—2, D.2...) refer to the national research projects considered in point 6.

² Based upon 1976 prices.

Belgium

Project B.1

Organization: Administration de l'Electricité et de l'Electromécanique R.21.

Description: Automatic traffic control of the Reyers complex at Schaerbeek including an AID-system with 276 inductive loops and 42 CCTV-cameras. The system uses threshold values for speed and occupancy.

Time: Active.

Project B.2 (point 2.4.2 of the programme)

Organization: Ministry of Public Works.

Description: Automatic system for traffic flow counts on the complete motorway network in Belgium.

Time: 600 loops installed and attached to control computer 1976.

France

Project F.1 (points 2.1.1—2 and 2.4.1—2 of the programme)

Organization: Ministry of Equipment. Region of Paris.

Description: Field experiments with different AID strategies on the motorways A6—B6 near Paris, total road length 30 km. Single inductive loop detectors in every lane, loop spacing 1-3 km.

Time: Operational at the end of 1976.

A separate cost estimate for the AID part of the project is not available.

Project F.2 (points 2.1, 2.2.2 and 2.4.1-2 of the programme)

Organization: Ministry of Equipment.

Description: Field experiments with different AID strategies on the motorway A 13 near Paris. Single inductive loop detectors in every lane;

(a) 9 km stretch: every 500 m;

(b) 15 km stretch: every 3-4 km.

CCTV is used to confirm and define incidents.

Time: Operational at the end of 1975. The AID-system cost is estimated to 3 million FF, the CCTV cost to 5 million FF.

Project F.3 (points 2.3 and 2.5.1-2 of the programme)

Organization: City of Paris.

Description: To obtain criteria of feasible density of CCTV cover in an ID-system for a 6.5 km stretch of Boulevard Périphérique in Paris.

Time: Not operational before 1977.

Federal Republic of Germany

Project D.1 (points 2.2.3 and 2.3.1-2 of the programme)

Organization: Bundesverkehrsministerium Dr Ing. Steierwald — Dr Ing. Heusch — Dipl. Ing. Boesefeldt.

Description: Study of corridor control with variable message signs for alternative routes. Rhein-Main motorway complex. MID and incident prevention programme.

Time: Active.

Project D.2 (points 2.1, 2.4.1-2 and 2.5.1-2 of the programme)

Organization: Bundesanstalt für das Strassenwesen.

Description: Field experiments with different AID-methods on an 8 km stretch of motorway between Stuttgart and Munich in Aichelberg. Double 3 X 3 m inductive loop detectors in each lane, spacing 500 m.

Field installations including gantries with optical fibre matrix signs.

Time: Hardware installations completed. Implementation of software started.

Netherlands

Project NL.1 (point 2.4.2 of the programme)

Organization: Rijkswaterstaat in the Hague.

Description: Motorway surveillance and control system on motorway RW 13 (25 km). Double inductive loop detectors in each lane every 500 m for AID-purposes.

Time: Started. Fully operational in 1979.

Project NL.2 (points 2.1 and 2.4.1-2 of the programme)

Organization: Rijkswaterstaat in the Hague.

Description: Development of AID theories and off-line tests both on simulated traffic and on traffic data.

Time: 1976—1980, active.

Sweden

Project S.1 (points 2.1 and 2.4.1-2 of the programme)

Organization: Telephone Co. L.M. Ericsson. Swedish Board of Technical Development.

Description: Field tests using the long-loop detectors for AID on a 4 km stretch of the motorway E 4 in Stockholm. Detector length 150 m, spacing 500 m. Off-line tests of strategies.

Time: Completed by the end of 1977.

Project S.2 (points 2.2.1-2 and 2.3.1-2 of the programme)

Organization: Swedish Transport Research Commission.

Description: Field studies of the frequency of incidents. Tests of reliability of CB-radio for incident reporting.

Time: Completed in 1978.

United Kingdom

Project UK (points 2.4.1-2 of the programme)

Organization: TRRL.

Description: Field data collection of traffic behaviour at incidents on a 1.2 km stretch of the motorway M 4 near London. Single inductive loop detectors in each lane, spacing 400 m. Off-line tests of AID-strategies.

Time: Active.

TOPIC 7

Coordination on intelligibility of messages

1. Aims

- The messages given in different languages to be considered in Topics 1 and 2 should be short, clear, unambiguous and have the same meaning.
- The terminology for road signs considered in Topic 3 should also be coordinated in those cases where no symbols are available.

2. Programme

Subject:

1. To study message structures, including the sequencing of the various parts of the message in the interests of clarity.
2. To adapt messages to each language, taking into account the need
 - to select words which are most clearly distinguishable above the noise inside the vehicle;
 - to compile messages which are as brief as possible;
 - to avoid the use of words which have different meanings in the various languages (e.g., 'control').
3. To participate in the coordination of communications over the various systems adopted for a possible demonstration project.

Data:

The data to be considered for transmission will emerge from the programme proposed for Topics 1, 2, 3 and 5.

3. Cost

The total cost of the programme is estimated at 15 000 UA

4. Timetable

The work will be accomplished intermittently as and when the data become available.

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, Italy and Belgium (coordinating country).

The work will be carried out with the collaboration of the terminology services of the European Community.

TOPIC 8

Development of automatic detection of bad weather conditions

1. Aims

The aim of this research is to develop to prototype stage a system for detecting and predicting weather and driving conditions and forecasting changes. The system will detect, predict, and give warning of hazardous changes in each of the following conditions: visibility, wind speed and gustiness, skid risk due to changes in weather and flood risk.

Furthermore the aim is to examine the problem of short term weather forecasting and its repercussions on road maintenance, traffic strategy and the identification of bad-weather 'blackspots'.

2. Programme

- 2.1 Definition of information requirements in light of operational research.
- 2.2 Inventory and assessment of current studies, methods and equipment.
- 2.3 Study of frequency of occurrence and duration of various types of weather and road conditions.
- 2.4 Study of relationship between weather and road conditions to obtain basic statistical material for forecasting purposes.
- 2.5 Development of sensors from theoretical stage to construction stage.
- 2.6 Development of detection and warning systems based on measurements, statistics and other meteorological data.
- 2.7 Development of data processing outputs and transmission modes suitable for the entire system (Mark 1).
- 2.8 Manufacture and testing of a prototype, analysis and specifications.

3. Timetable

Activities	1974	1975	1976	1977
1. Definition of information requirements	_____			
2. Inventory	_____	-----		
3. Study of the frequency and duration of different weather conditions			_____	
4. Study of internal relationship between weather and road conditions	_____	-----	_____	
5. Development of sensors	_____			
6. Development of models for detecting and warning system		_____		
7. Processing and data transmission		_____		
8. Manufacture and testing of prototype, analysis, specifications.		_____		

4. Cost: 1.14 M UA at 1976 prices.

5. Participating countries

The active participation of the following countries is planned:

Belgium, Federal Republic of Germany, France, Italy, Netherlands, Sweden, Switzerland, United Kingdom, Yugoslavia and Finland (coordinating country).

6. National research programmes

Belgium: Ministère des Travaux Publics is studying detecting methods for ice and fog.

Finland: Meteorological Institute is studying internal relations between weather and road conditions, especially slipperiness and is developing models for use of various meteorological data for detecting and warning purposes.
Time-scale: 1975-77.

A study is being made of the development of sensors, data processing and transmission equipment for detecting and warning prototype systems.
Time-scale: 1975-77.

National Board of Public Roads and Waterways together with the State Technical Research Centre are measuring slipperiness of road surface on test sections and studying its relationship to maintenance. Furthermore the 'National Board of Public Roads and Waterways' is studying the relationship between weather and accidents, and is considering installing an automatic weather station.
Time-scale 1975-77.

France: SETRA is studying detectors for ice and fog.
Time-scale 1975-76.

Germany: Bundesanstalt für Strassenwesen has a trial of a fog-warning system under way.
Time-scale 1971-76.

Institut für Verkehrswesen, Universität Karlsruhe is studying influence of different fog density on traffic flow.
Time-scale 1974-75.

Netherlands: State Road Laboratory operates an ice-warning system.

Sweden: National Swedish Road and Traffic Research Institute:

- slipperiness on heat-insulated roads;
- development of mobile instrument systems for measuring air temperature;
- test sections for studying icing on the road surface.

Switzerland: Operating ice-warning system on motorway N 2.

United Kingdom: TRRL is studying (1975-77) sensors and a prediction model for visibility.

TOPIC 9

Central equipment, control strategies, data transmission, method of evaluation

1. Aims

Group 9 will treat the problems of:

- System elements and system software:
 - control strategy;
 - data transmission;
 - control centre equipment.
- Procedure and methods of assessment for the choice of communication systems, in particular clarification of the need for a public demonstration, and the presentation of a report on this issue after 2 years.

2. Programme

2.1 System elements and system software:

- Control strategy:
 - inventory of control strategies of existing or planned motorway communication systems (operational criteria, control logic, message content, software) and analysis of the influence of enhanced communication systems;
 - elaboration of common directions for the development of the software.
- Data transmission:
 - synopsis of the data transmission requirements of the individual system components;
 - inventory of actual data transmission systems and comparison with the aforementioned requirements.
- Control centre equipment:
 - inventory of existing control centre equipment (central processor, control units, functions);
 - derivation of minimum requirements.

2.2 Procedures and methods of assessment for the choice of systems:

- Methods of assessment:

Synopsis and evaluation of the different procedures for the choice of a standard communication system such as:

 - collection of descriptive data,
 - single tests in laboratories,
 - comparative tests in laboratories,
 - independent tests during practical use of the systems,
 - simulation.
- Procedures for the choice of the system:
 - synopsis of the detailed technical specifications defined by the COST 30 Technical Sub-groups;
 - assembly and analysis of existing studies on:
 - driver comfort,
 - drivers' subjective safety;
 - derivation of evaluation criteria, enabling the competitive prototype systems to be compared;
 - specification of methods of assessment for the various evaluation criteria covering the following aspects:
 - traffic safety,
 - drivers' subjective safety and comfort: these relatively under-researched problems probably constitute important factors in the assessment of communication media,
 - reduction of delays and stops,
 - cost-benefit analysis.

3. Timetable

The results should be available in two years time.

4. Cost

The cost per participating country is estimated at 8 000-10 000 UA.

Total at 1976 prices: 70 000 UA.

5. Participating countries

The active participation of the following countries is planned:

Federal Republic of Germany, Finland, France, Italy, Netherlands, United Kingdom, Yugoslavia and Switzerland (coordinating country).

**Memorandum of Understanding on the implementation of a European project on
electronic traffic aids on major roads
(COST 30)¹**

Date of entry into force: 18. 5. 1977

Duration: 30. 3. 1980²

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
EC	16. 1. 1978	16. 1. 1978
Belgium	31. 3. 1977	31. 3. 1977
Germany (Fed. Rep. of)	31. 3. 1977	31. 3. 1977
France	31. 3. 1977	31. 3. 1977
Italy	31. 3. 1977	31. 3. 1977
Netherlands	18. 5. 1977	18. 5. 1977
United Kingdom	31. 3. 1977	31. 3. 1977
Yugoslavia	6. 6. 1978	6. 6. 1978
Austria	31. 3. 1977	31. 3. 1977
Switzerland	31. 3. 1977	31. 3. 1977
Finland	31. 3. 1977	31. 3. 1977
Sweden	31. 3. 1977	31. 3. 1977

¹ Not published in the Official Journal.

² Extended until 30.3.1984.

**Memorandum of Understanding
for the implementation
of a European project on optical fibre
communication systems**

(COST Project 208)

Memorandum of Understanding for the implementation of a European project on optical fibre communication systems

(COST Project 208)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on optical fibre communication systems have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of optical fibre communication systems, (hereinafter referred to as 'the project').
2. The main objective of the project is to coordinate and advance European research into the devices and theoretical basis needed for future application of optical fibre communications, and in particular to undertake research into technological possibilities for the future which could lead to new or improved optical communication systems, and thus to act as a forum for the discussion and exchange of research information.
3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description given in Annex II, adhering as far as possible to a timetable to be decided by the Committee referred to in Annex I.

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

The cost of the project is estimated at approximately one million units of account at 1977 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project:

- (a) by carrying out an accelerated exchange of information which should be derived particularly from experience gained in experimental and field trial systems; or
- (b) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments'); or
- (c) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors'); or
- (d) by evaluating the various methods and approaches used in these research activities and as a result of these evaluations by making recommendations and allocating new tasks to the various laboratories; or
- (e) by arranging for frequent inter-laboratory visits and cooperating in an exchange of staff on a small scale in the later stages; or
- (f) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by

at least four Signatories. It may be extended by arrangement between the Signatories.

2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will be open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the above Governments or the European Economic Community may take part on a provisional basis in the project during the abovementioned period even though it may

not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign the present Memorandum will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.
3. Any Signatory may designate one or more competent public authorities or corporations to act on its behalf both in respect of the implementation of the project and in respect of the ensuing rights and obligations. The term 'competent public authorities or corporations' does not include industrial undertakings.
4. The Secretary-General of the Council of the European Communities will inform all Signatories of the date of the signatures to this Memorandum of Understanding, the date of its entry into effect and will forward all other notices which he has received under the Memorandum of Understanding.

Section 5

This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Geschehen zu Brüssel am fünfzehnten Dezember neunzehnhundertsiebenundsiebzig.

Done at Brussels on the fifteenth day of December in the year one thousand nine hundred and seventy-seven.

Fait à Bruxelles, le quinze décembre mil neuf cent soixante-dix-sept.

Fatto a Bruxelles, addì' quindici dicembre millenovecentosettantasette.

Gedaan te Brussel, de vijftiende december negentienhonderd zevenenzeventig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may participate in the work of the Committee before becoming Signatories to this Memorandum of Understanding in accordance with the second subparagraph of Section I, without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

- (a) drawing up detailed plans for the different phases of execution of the project;
- (b) the choice of research topics, including any changes in those provided for in Annex II and the selection of topics from the proposals submitted by the competent public authorities or agencies of the Signatories;
- (c) advising on the direction that work should take;
- (d) keeping abreast of the research being done in the territory of the Signatories and in other countries;
- (e) liaising with CEPT and other appropriate international bodies;
- (f) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or agencies, and research contractors in respect of industrial property rights and commercially confidential material;
- (g) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate;
- (h) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign this Memorandum of Understanding submitted more than six months after the date of the first signature.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to the competent public authorities or agencies of the Signatory to which they belong. Proposals that are accepted under this procedure will be submitted to the Committee.
2. Signatories will require public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public authorities or agencies referred to in paragraph I (a) notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under this Memorandum of Understanding.

III

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

— work in respect of this project;

or

— the applicant Signatory's projects relating to telecommunications;

— any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will accordingly insert clauses requiring the granting of the licences referred to in paragraph 1 in any contract which they place with research contractors for study, research and development work to be carried out in the execution of this project.
3. Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to above to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Chapter II (2), and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position.
4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of the present Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the present Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.

6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of this Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

General description of the project

1. Introduction: The current state of the art in Europe

In many countries in Europe both postal and telecommunications administrations (PTTs) and industry are actively studying digital systems, and a range of systems to handle information rates of 2, 8, 34 and 140 Mbits/second and even higher are currently under development. The applications for optical fibre systems are becoming clearer and field trials of systems of varying bit-rate capacities and lengths using LEDs or lasers with step-index multimode or graded-index multimode fibre cables as appropriate are now under way in some countries. Analogue modulation systems for TV transmission over local lines are also under investigation and some experimental systems are in use.

Work is about to be undertaken by CEPT Working Group TR to define the parameters of a family of systems. CEPT/ELT/ETC Group are examining the economics of optical fibre systems compared with competitive transmission media.

Thus research is already well under way in Europe and the effort is now concentrating on the development of realizable systems, the economic commercial manufacture of large amounts of fibre cables of consistent quality and of sources and detectors being one of the prime factors.

For the future, there are diverse activities in many European countries in both PTT and industry on very high bit rate systems (560 Mbits/s and upwards) using lasers and monomode fibres with system components in integrated form.

It would be advantageous to Europe as a whole and to the participating countries if a coordinated programme is implemented to exchange information about the research problems remaining to be solved and to compare methods of measurements on the various fibre and device characteristics and transmission parameters. This would then form the basis for a longer-term collaborative research activity into technological possibilities for the future which could lead to new or improved optical communication systems.

2. Objective of the project

The main objective of the project is to coordinate and advance European research into the devices and the theoretical basis needed for future application of optical fibre communications, and in particular to undertake research into technological possibilities for the future which could lead to new or improved optical communication systems, and thus to act as a forum for the discussion and exchange of research information.

3. The research work to be undertaken within the framework of the project can be divided into two aspects:

3.1 Long-term collaborative research into technological possibilities for the future;

3.2 Exchange and assessment of research information and experience on specific research activities in order to enhance European collaboration.

4. For the first aspect of the project three points of study are envisaged:
 - 4.1. To examine future applications of optical communication systems and to study the possible characteristics of such systems;
 - 4.2. To ascertain where research effort is needed and to undertake a coordinated programme to carry this out;
 - 4.3. To undertake a coordinated programme of research into technological possibilities for the future that may lead to new or improved optical communication systems. It is not possible to be specific about the topics to be covered since the state of the art is rapidly progressing and therefore some preparatory work on this particular aspect of the project would need to be undertaken by the Management Committee referred to in Annex I before this work begins. However, examples of possible topics, not in order of priority, would be:
 - 4.3.1. Integrated switching and transmission:
 - optical switches
 - optical repeaters
 - optical equalizers
 - optical filters
 - optical multiplexors
 - optical modulators
 - thin film optical waveguide
 - optical couplers.
 - 4.3.2. Use of longer wavelength (1 to 2 μm) components.
 - 4.3.3. Development of the picosecond measurement techniques (between 1 and 2 μm) required for future systems and devices.
 - 4.3.4. Use of integrated optic devices.
 - 4.3.5. Use of holographic coupling and switching techniques.
 - 4.3.6. New fibre materials and structures.
5. For the second aspect of the project, three points of study are envisaged:
 - 5.1. To be a forum for the discussion of background research information required by participating countries in order to harmonize research;
 - 5.2. To compare and analyse definitions of performance parameters of optical fibre and components and the methods of measurement and testing;
 - 5.3. To consider the possible range of optical fibre systems that could be used for PTT and non-PTT applications with the aim of seeking common uses for fibre and to a lesser extent other components and thus achieving economy of scale.
6. The determination of further technical details of the programme of work and of the time-scales to be applied will be the responsibility of the Signatories acting through the Management Committee. However, since a significant part of the work will be in support of Signatories' contributions to standards within CEPT, IEC and other international bodies, any time-scales and activities decided upon should be consistent with any related studies being carried out by these bodies.

**Memorandum of Understanding for the implementation of a European project on
optical fibre communication systems
(COST 208)¹**

Date of entry into force: 15. 12. 1977

Duration: 14. 12. 1980²

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	14. 6. 1978	14. 6. 1978
Denmark	14. 6. 1978	14. 6. 1978
Germany (Fed. Rep. of)	15. 12. 1977	15. 12. 1977
France	15. 12. 1977	15. 12. 1977
Ireland	15. 12. 1977	15. 12. 1977
Italy	15. 12. 1977	15. 12. 1977
Netherlands	14. 6. 1978	14. 6. 1978
United Kingdom	15. 12. 1977	15. 12. 1977
Spain	15. 12. 1977	15. 12. 1977
Switzerland	19. 5. 1978	19. 5. 1978
Finland	19. 5. 1978	19. 5. 1978
Sweden	15. 12. 1977	15. 12. 1977

¹ Not published in the Official Journal.

² Extended until 14.12.1983.

**Memorandum
of Understanding for the
implementation of a European research project
on benthic coastal ecology**

(COST Project 47)

Memorandum of Understanding for the implementation of a European research project on benthic coastal ecology

(COST Project 47)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on benthic coastal ecology have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of benthic coastal ecology (hereinafter referred to as 'the project').
2. The main objective of the project is to coordinate and advance European research on benthic coastal ecology via the elaboration of base-line studies of selected ecosystems, with a view to achieving better understanding and prediction of natural fluctuations in species population as opposed to short-term and local anthropogenic changes.
3. The Signatories hereby declare their intention to carry out the project jointly, in accordance with the general description and indicative pattern of potential participation given in Annex II.

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

The overall value of the activities of the Signatories under the project is estimated at approximately 3 million European units of account at 1978 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project:

- (a) by carrying out directly studies and research in public research establishments (hereinafter referred to as 'public research establishments'); or
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');
- (c) by supplying services;
- (d) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect, as between the Signatories, for five years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories, in particular with a view to enlarging research into the field of Mediterranean coastal benthic ecosystems.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Committee referred to in Annex I will examine the situation which has

arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will be open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the above Governments or the European Economic Community may take part on a provisional basis in the project during the abovementioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign the present Memorandum will be considered by the Committee

referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or corporations to act on its behalf in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or corporations' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the date of the signatures to this Memorandum of Understanding, and the date of its entry into effect, and will forward all other notices which he has received under the Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den femte april nitten hundrede og nioghalvfjerds.

Geschehen zu Brüssel am fünften April neunzehnhundertneunundsiebzig.

Done at Brussels on the fifth day of April in the year one thousand nine hundred and seventy-nine.

Fait à Bruxelles, le cinq avril mil neuf cent soixante-dix-neuf.

Fatto a Bruxelles, addì cinque aprile millenovecentosettantanove.

Gedaan te Brussel, de vijfde april negentienhonderd negenenzeventig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may participate in the work of the Committee before becoming Signatories to this Memorandum of Understanding in accordance with the second subparagraph of Section 4(1) without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

- (a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or agencies of the Signatories;

- (b) advising on the direction that work should take;

- (c) drawing up detailed plans and defining methods for the different phases of execution of the project;

- (d) keeping abreast of the research being done in the territory of the Signatories and in other countries;

- (e) liaising with appropriate international bodies;

- (f) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or agencies, and research contractors in respect of industrial property rights and commercially confidential material;

- (g) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as may be deemed necessary;

- (h) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign this Memorandum of Understanding submitted more than six months after the date of the first signature.

3. The Secretariat of the Committee will be provided by the Commission of the European Communities at the invitation of the Signatories.

II

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Sig-

natory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of this project; or
- the applicant Signatory's projects relating to benthic coastal ecology;
- any associated European project undertaken subsequently and in which all the Signatories, or several of them may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will accordingly insert clauses requiring the granting of the licences referred to in paragraph 1 in any contract which they place with research contractors for study, research and development work to be carried out in the execution of this project.
3. Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to above to be extended on fair and reasonable terms, having regard to commercial usage, to previous industrial property rights and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position.
4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of the present Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the present Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of this Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project and indicative pattern of potential participation

I. GENERAL DESCRIPTION OF THE PROJECT

(1) *Aims*

To establish a realistic and manageable 'base-line' study of benthic communities of Atlantic/North Sea coasts. The concept of 'base-line' study will be broadened in scope to include:

(a) Data on the scales of natural variability over as long a period as possible to give reasonable assurance that a wide range of irregular climatic/hydrographic events have been observed;

(b) A sufficient understanding of the specific causes of biological change to permit *prediction* about the consequences of natural physical events with some degree of confidence;

(c) A sufficient understanding of community dynamics for *prediction* about the consequences to the whole biological community of dramatic changes in individual species as a result of natural factors or selective pollutants.

(2) *Programme*

2.1. The programme will be divided into three distinct but related research projects. These will study three biological communities characteristic of three benthic coastal habitats. The biological communities are widely distributed on European coasts and are generally regarded as of major importance. They are identified by their 'key' or characteristic animal species.

Project	Coastal habitat	Biological community
I	Sedimentary substrates: Intertidal and subtidal	<i>Macoma</i> <i>Amphiura</i> /Abra
II	Rocky substrates: Intertidal	Balanoid/ <i>Patella</i>
III	Rocky substrates: Subtidal	Ascidian/Porifera

2.2. The selection of these communities recognizes that each is being studied intensively on a local scale in one or more countries. Thus a sound data base exists in each case upon which to develop an expanded programme.

2.3. Cooperative research is needed at international level to determine the effects of broadscale, geographically operating climatic and hydrographic factors. Accordingly, simultaneous studies will be made for each community, using the same or intercalibrated methods, at a chain of recording stations throughout the geographical range of that community. The following aspects, among others that may be regarded as locally desirable, will be included:

1. Community dynamics, leading to an appreciation of the most important biological interactions and to the identification of the 'key' or dominant species. This will involve systematic observation of natural events and the experimental manipulation of community structure;
2. Standing crop and population dynamics of these 'key' species, with special emphasis upon their reproductive cycles and the intensity of recruitment from year to year. Since these latter aspects are especially responsive to slight changes of natural conditions and are very sensitive to pollutants, special efforts may be needed to develop the most accurate methods of assessing fecundity, recruitment success and juvenile establishment;
3. The appropriate range of climatic/oceanographic data, together with the broad spectrum analyses of substrate type and variation which are especially important for the sediment-living communities. Although the collection of some of these data will require specific action, in some situations the present routine collections of meteorological/oceanographic data for other biological and non-biological purposes can be consulted.

(3) *Implementation and timing*

The intercalibration of methods of study and the handling of results will be dealt with by appointing lead countries with the appropriate expertise as follows:

Project	Coastal habitat	Lead country
I	Sedimentary: Intertidal and subtidal	France — Dr L. Cabioch
II	Rocky: Intertidal	United Kingdom — Dr J. R. Lewis
III	Rocky: Subtidal	Sweden — Dr T. Lundälv

The project will include meetings, workshops, visits and short exchanges of research workers for the intercalibration of methods of study and the handling of results.

The project will last at least five years to give reasonable assurance that a wide range of irregular climatic/hydrographic events have been observed. Initially, work will concentrate on ensuring the comparability of results and the handling of data at an international level.

II. INDICATIVE PATTERN OF POTENTIAL PARTICIPATION

Project	B	D	DK	E	F	IRL	N	NL	P	S	UK	EEC
1. Sedimentary substrates: Intertidal and subtidal	X	X	X		X	X	X	X	X	X	X	X
2. Rocky substrates: Intertidal				(X)	X	X	X		X		X	X
3. Rocky substrates: Subtidal				(X)	X	X	X		X	X	X	X

Key: B — Belgium; D — Federal Republic of Germany; DK — Denmark; E — Spain; F — France; IRL — Ireland; N — Norway; NL — Netherlands; P — Portugal; S — Sweden; UK — United Kingdom; EEC — European Economic Community.
(Lead countries are in italic type; parenthesis indicates that participation has still to be confirmed.)

**Memorandum of Understanding for the implementation of a European research project
on benthic coastal ecology
(COST 47)¹**

Date of entry into force: 5. 4. 1979

Duration: 4. 4. 1984

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
EC	28. 11. 1980	28. 11. 1980
Belgium	31. 7. 1980	31. 7. 1980
Denmark	5. 4. 1979	5. 4. 1979
Germany (Fed. Rep. of)	5. 4. 1979	5. 4. 1979
France	5. 4. 1979	5. 4. 1979
Ireland	5. 4. 1979	5. 4. 1979
Netherlands	22. 5. 1980	22. 5. 1980
United Kingdom	5. 4. 1979	5. 4. 1979
Spain	27. 5. 1980	27. 5. 1980
Norway	22. 5. 1980	22. 5. 1980
Portugal	8. 4. 1982	8. 4. 1982
Sweden	5. 4. 1979	5. 4. 1979

¹ Not published in the Official Journal.

International Agreement on the setting up of an experimental European network of ocean stations

(COST Project 43)

International agreement on the setting up of an experimental European network of ocean stations

(COST Project 43)

The Governments of the Kingdom of Belgium
the Kingdom of Denmark
the Kingdom of Spain
the French Republic
Ireland
the Italian Republic
the Kingdom of Norway
the Portuguese Republic
the Republic of Finland
the Kingdom of Sweden
the United Kingdom of Great Britain
and Northern Ireland

hereinafter referred to as 'the Participants',

conscious of the need to coordinate action with a view to setting up an experimental European network of ocean stations for providing meteorological and oceanographic data,

HAVE AGREED as follows:

Article 1

The contracting parties to this Agreement, hereinafter referred to as 'the Parties', shall cooperate in a project, hereinafter referred to as 'the project', with a view to setting up an experimental European network of ocean stations (ENOS) for providing meteorological and oceanographic data on a real-time basis.

A description of the project is contained in Annex I.

Article 2

A Management Committee, hereinafter referred to as 'the Committee', composed of one representative of each Party, is hereby established. Each representative may be accompanied by experts or advisers.

The Committee, acting unanimously, shall adopt its rules of procedure. In addition, it shall appoint its Chairman and Vice-Chairman.

Article 3

The Committee shall be responsible for co-ordinating the project and in particular shall:

- (a) make recommendations to the Parties, giving reasons, on any activity relating to the implementation of the project;
- (b) follow the progress of the work and recommend to the Parties, where appropriate, such changes as may be necessary in the overall direction or the volume of the work being undertaken;
- (c) take any decisions concerning the activities of the five sub-regions referred to in Annex I, the co-

ordination of which is necessary to the success of the project;

(d) appoint the project leader and define his functions;

(e) draw up programme proposals for the possible continuation of the work after this Agreement expires;

(f) exchange research results to an extent compatible with adequate safeguards for the interests of the Parties, their competent public authorities or agencies and research contractors, in respect of industrial property rights and confidential material of a commercial nature;

(g) publish, annually and at the end of the project, a report containing its conclusions on the results of the operations covered by the project and forward it to the Parties.

Article 4

The running costs, including administrative, secretarial and staff costs, the total amount of which shall not exceed the sum of BFR 15 000 000, shall be divided as follows among the Parties:

Belgium	887 650
Denmark	528 100
Spain	1 359 550
France	4 393 250
Ireland	101 100
Italy	2 550 550
Norway	415 750
Portugal	235 950
Finland	393 250
Sweden	955 050
United Kingdom	3 179 800

At the request of the Parties, the Commission of the European Communities shall provide the Secretariat for the Committee and shall administer the fund. The Commission will be reimbursed for these costs.

Article 5

1. The Parties shall require their establishments and contractors to notify them, for the information of the Committee, of previous commitments and industrial property rights of which they are aware and which might hinder the performance of the work covered by this Agreement.

2. Without prejudice to the application of national law, each Party shall ensure that the owners (falling within its jurisdiction) of industrial property rights and technical infor-

mation resulting from work assigned to them will be under an obligation, if so requested by another Party, to grant that Party, or a third party nominated by that Party, a licence in respect of those industrial property rights or that technical information and will be under an obligation to supply the technical know-how necessary for use of the licence where the grant of the licence is requested:

— for the performance of work covered by this Agreement; or

— for setting up ocean stations for the provision of meteorological and oceanographic data.

Such licences shall be granted on fair and reasonable terms having regard to commercial usage.

3. The Parties shall accordingly ensure the inclusion in contracts for work covered by this Agreement of conditions enabling the licences referred to in paragraph 2 to be granted.

4. The Parties shall make every effort, in particular by the inclusion of appropriate conditions in contracts for work covered by this Agreement, to make provision on fair and reasonable terms and having regard to commercial usage, for the licences referred to in paragraph 2 to be extended to industrial property rights notified in accordance with paragraph 1 and to prior technical know-how owned or controlled by the contractor, insofar as use of the said licences would not otherwise be possible. Where the contractor is unable to agree to such an extension, the case shall be submitted to the Committee, before the contract is entered into, so that the Committee can state its views on the matter.

5. The Parties shall take any steps necessary to ensure that the fulfilment of the obligations laid down in paragraphs 1 to 4 is not affected by any subsequent transfer of the industrial property rights, technical information or technical know-how. Any transfer of industrial property rights shall be notified to the Committee.

6. If a Party terminates its participation in this Agreement, rights of use which it has granted or is obliged to grant or has obtained in application of paragraphs 2 and 4 and which concern the results of the work carried out up to the date when the said Party terminates its

participation, shall continue thereafter, on the conditions laid down in the relevant contract or contracts.

7. The rights and obligations set out in paragraphs 1 to 6 shall continue to apply after this Agreement expires. They shall apply to industrial property rights as long as these remain in force and to unprotected technical information or technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

Article 6

The Parties shall apply the provisions of Annex II on the legal status of Ocean Data Acquisition Systems (ODAS).

The Annexes to Annex II may be subject to review independently of the Articles on the legal status of ODAS.

Article 7

The Parties shall consult each other:

- at the request of one of them, on any problem posed by the implementation of this Agreement;
- in the event of withdrawal by one of them, on the continuance of the project.

Article 8

1. This Agreement shall be open for signature by the Participants until it enters into force in accordance with paragraph 3. Any Participant which does not sign this Agreement within the said period may accede to it in accordance with Article 10 at any time thereafter.
2. This Agreement shall be subject to ratification or acceptance by the Signatories. Instruments of ratification or acceptance shall be deposited with the Secretary-General of the Council of the European Communities.
3. This Agreement shall enter into force 30 days after the date on which seven of the Signatories have deposited their instruments of ratification or acceptance.
4. For Participants whose instruments of ratification or acceptance are deposited subsequent to the entry into force of this Agreement, it

shall enter into force on the date of the deposit of such instrument.

5. Participants which have not deposited their instruments of ratification or acceptance at the time of the entry into force of this Agreement may take part in the work of the Committee without voting rights for a period of six months after the date of entry into force.
6. The Secretary-General of the Council of the European Communities shall promptly notify all Participants and acceding States of the date of the deposit of instruments of ratification, acceptance or accession to this Agreement and the date of its entry into force and shall forward all other notices which he has received under the Agreement.

Article 9

Any Party may give notice of its withdrawal from the Agreement two years after its entry into force by written notification to the Secretary-General of the Council of the European Communities. Such withdrawal shall take effect one year from the date of the receipt by the Secretary-General of the Council of the European Communities of this notification.

Article 10

This Agreement is open to accession by the States which took part in the Ministerial Conference in Brussels on 22 and 23 November 1971, by the Republic of Iceland, and by the European Communities. Any accession under this Article shall require the unanimous consent of the Parties, which may impose conditions therefor. Instruments of accession shall be deposited with the Secretary-General of the Council of the European Communities, the Agreement shall enter into force for the acceding Party on the date of deposit of such instrument.

Article 11

This Agreement shall remain in force for 4 years. If the project is not completed within that time the Parties may agree to prolong it in order to complete the project.

Article 12

This Agreement, of which the English and French texts are equally authentic, shall be deposited with the General Secretariat of the Council of the European Communities, which shall transmit a certified copy to each of the Parties.

Done at Brussels on the fifteenth day of December in the year one thousand nine hundred and seventy-seven

Fait à Bruxelles, le quinze décembre mil neuf cent soixante-dix-sept.

ANNEX I

Description of the Project

I. INTRODUCTION

1. The Project

The aim of this project is to set up an experimental European network of ocean stations (ENOS) for the purpose of providing meteorological and oceanographic data on a real-time basis. The whole project will be divided into three phases; however, the present programme will cover only phases I and II.

Phase I: Evaluation, testing and further development of existing components such as sensors, structures, transmission systems etc.

Phase II: Based on the findings made during Phase I, a pilot network will be set up in five selected regions for the purpose of acquiring experience in the management of a network and in order to assess the data transmission technique. The pilot network will be based on contributions from all the participating nations. Taking into account the interest shown by the users, the results of Phase II will make it possible to form an opinion on the extent and progress of the integration of the pilot networks into an operational and standardized network covering the whole of the European region, which will constitute Phase III.

2. General Considerations

The thermodynamic processes in the ocean and the atmosphere above it are closely inter-dependent. A complete monitoring survey will therefore have to be made from both aspects. The meteorological observations therefore must include data from the upper ocean; in the same way the oceanographic observations must include data from the lower atmosphere.

The ocean and the atmosphere are both subject to continual variations in space and in time. A detailed and continuous supply of data will therefore be necessary to monitor maritime environment conditions. For the purpose of weather-forecasting new weather maps based on simultaneous observations, are, for this reason, made at 3-hourly intervals. A series of weathermaps will show the development in atmospheric conditions in time and in space, and will enable the meteorologist to predict future developments. It should, however, be mentioned that a weather map is a picture based on single points of information. In order to make such a detailed map, a dense net of stations is necessary. The spatial resolution of the forecast therefore depends on the density of the station network. A relatively dense net of meteorological stations already covers the continent, but the ocean is not adequately covered. Ocean weather ship stations do occupy selected positions, but are inadequate in number and some are being withdrawn, mainly for financial reasons.

ODAS¹ is suggested as an alternative system which could fill this gap in the ocean station network.

Most ocean phenomena, except those directly related to tidal forces, are very variable. For this reason a reliable and sufficiently detailed prediction of ocean phenomena cannot be worked out on the basis of the statistical analysis of old time-series.

At the same time there is an increasing demand for ocean data, particularly as regards ever increasing offshore activity. The optimum utilization of the ocean food

¹ Ocean Data Acquisition System

resources also demands close monitoring of ocean conditions such as the temperature, currents, oxygen and the nutrient content. Furthermore pollution in the ocean is becoming a vital problem which calls for continual surveillance, not only to detect the pollutants, but also to ascertain the diffusion parameters, that is wind, currents, state of sea, etc.

It should also be emphasized that a better knowledge of the physical processes of the ocean and the atmosphere — achieved presumably by a denser and improved ocean station network — will increase the safety of human life and property.

The proposed project is very comprehensive. Its mere size and complexity make it prohibitive for a single nation to undertake, not only for financial reasons, but also for reasons such as data acquisition from waters of foreign nations, deployment and recovery, data transmission, etc.

In order to serve its purpose, the ENOS must cover an area so large that most European countries will benefit directly from the results. It consequently calls for a common European effort to provide the data.

Environmental parameters are observed in order to:

A. provide information — normally as time-series — for the study of natural phenomena of either general or local relevance. Typical applications of time-series are:

(i) statistical analysis giving information on the local statistical conditions such as means, max.-and-min. values, isopleths, tides, etc.

(ii) scientific research where the data provides the necessary initial values for theoretical models, and provides the basis for testing the models by comparison with the actual observations.

However, neither of these applications normally require the data on real-time basis.

B. provide information on real-time basis to be applied to:

(i) models based on previous investigations, in order to form a basis for a prognosis of the future development of the model. This model may be weather maps or a model of ocean current, water level, etc.

(ii) immediate practical use when very accurate information on the actual local conditions is required. For such purposes the information must be passed to the users without any delay. Typical users are airports (wind data), shipping companies and offshore constructors (wind data, state of sea, currents, etc. at special locations during critical operation phases).

It has been stated in connection with the product of ENOS, namely the data, that its special value lies in its real-time availability for forecasting purposes and other immediate uses. It should be emphasized that its forecasting value rapidly deteriorates in time, as does the forecast itself.

It is therefore to be concluded that the data will be used for the following purposes:

- forecasting of ocean and atmospheric phenomena;
- establishment of climatological statistics;
- scientific studies on oceanic and atmospheric phenomena.

Whilst real-time data is imperative for forecasting, it is normally not required for the establishment of standards or for scientific studies.

As to scientific application, it should be mentioned that this project is a general system of data acquisition, whilst a scientific project is normally structured to provide data for studies of particular phenomena, where care is taken to avoid irrelevant information.

For obvious reasons scientific projects often depend on very specific sensors and equipment which have been built for a particular purpose and are in no way standardized or suited to a general system.

Statistical data forms the background for the planning of a large variety of permanent and mobile marine constructions, such as: docks, quays, moles, ships, oil rigs, etc.

Furthermore, statistical analysis on currents, tides, etc. are given as an aid to navigators in pilot books and charts.

II. OBJECTIVES

The meteorological and oceanographic real-time data as provided by this project are of great interest to a number of specific groups of users who need this information to achieve a better knowledge and a closer monitoring of the marine environment in order to:

- improve safety and protection of human life and property;
- improve the exploitation of marine resources;
- improve the economy of marine activity.

The potential users are:

- weather forecasting services;
- storm surge and warning services;
- coastal protection bodies;
- offshore oil-gas and mineral exploration and exploitation firms;
- ship-routing services and navigators;
- the fishing industry;
- environment protection agencies;
- marine research institutions;
- ice forecasting services;
- marine constructors and shipbuilders.

The priority will obviously vary depending on the locality and the national interest.

A brief survey of some of the topics and their practical importance to various users are given below.

- *Weather forecasting* has proved its value and is a self-evident requirement in a modern community. The users cover more or less the whole community, especially ship and aircraft navigators, fishermen and farmers. However, additional information from offshore positions is required in addition to the network already in existence, if the reliability and resolution of the forecasts are to be improved.
- *Storm surges, flood warnings*. Due to coinciding effect of tides, wind storms, air pressure and low frequency waves, the sea level can rise to extremely high levels. The results can have enormous consequences on those countries which are vul-

nerable to flooding. Early warning and close monitoring, based on adequate offshore information, is therefore of vital importance.

- *Ocean forecasting.* Prognostic oceanography or prediction of ocean conditions of e.g. waves, state of sea, temperature, currents, contents of nutrients etc. in a form similar to a weather forecast, is probably still a long way ahead, because the dynamics of the ocean are not well enough understood and the information available is inadequate for the purpose. Nevertheless, a pilot project on synoptic oceanography was carried out under the auspices of the ICES¹ in the late 1960s. The result of this pilot project was highly prized. However, the facilities were inadequate to maintain and develop the project which was considered premature at that time. Like weather forecasting, ocean forecasting is assumed to be an important source of information where offshore projects, coastal engineering, shipping and fisheries, are concerned.
- *Coastal and ocean engineering.* The offshore activity relating to exploitation of the seabed obviously depends greatly on local weather conditions. Unfavourable and unexpected weather and sea conditions — during a critical operational phase — may be disastrous. In this connection it is assumed that, for some operations, the user will need to receive the relevant data at his own operational centre, in real-time, in addition to the standard forecast. Such information is therefore considered of special value where coastal and offshore construction operations, deployment of pipelines, cables etc. are concerned.
- *Ship routing.* Estimation of the most favourable sailing route between two points at a given date, based on weather forecasting and knowledge of the state of the sea and currents, has proved its value. This method saves sailing time, results in less damage and danger to ships and cargo and gives greater passenger comfort and safety.
- *Fishing.* Rational and optimum exploitation of maritime food resources requires adequate information on ambient water conditions such as temperature, salinity, currents, oxygen and nutrient content, because life in the ocean is closely interdependent and linked to these parameters. Ocean forecasting is therefore considered an important tool for improving fishery research and, eventually, for obtaining maximum yields of fish.
- *Navigation.* Ship-routing has been mentioned. In addition, ocean forecasting and real-time data will prove a valuable aid in the handling of large ships, oil carriers, platforms etc., in narrow and shallow waters. The existing charts and pilot logs are based on statistics which are often insufficiently accurate in relation to actual conditions. The large ships of today develop less engine power per ton than the smaller ships, and consequently are more susceptible to the effects of wind and currents.
- *Monitoring of Pollutants.* Pollution is a problem of increasing impact to the marine environment. Key parameters are the detection and monitoring of the diffusion rates and the movement of pollutants from place to place. In this connection a net of ODAS can play an important role by acting as a means of monitoring, providing, as it does, immediate information on the presence of polluting elements, together with those factors responsible for all aspects of their movements from place to place, i.e. wind, currents and waves.

At present there are no adequate automatic sensors for detecting pollutants on the market. However, great efforts are being made in this direction and it is believed that the first prototype sensors will appear on the ODAS in the near future.

¹ International Council for the Exploration of the Sea

TECHNICAL CONTENT

I. Structure of the programme

The programme includes:

- sub-systems development;
- implementation of the network;
- data exploitation and their integration into WMO¹ network.

Description of Regions

The pilot project (Phase II) comprises the following five regional networks:

1. The Azores, delimited by latitudes 44°N and 34°N, and meridian 32°W to the Iberian peninsula.
2. Bay of Biscay, delimited by latitudes 44°N and 52°N, and meridian 20°W and the west coast of France, Ireland and the United Kingdom.
3. Faroes/Shetland. The area delimited by the 64°N latitude between 10°W to 4°E. The southern border is formed by a line running along the 60°N latitude from 64°E to Shetland, from Shetland to the north-east coast of Scotland and further along the 58°30' latitude through the Butt of Lewis to 10°W.
4. Mediterranean. An area bordered by the south coast of Spain, France and Italy in the north and by a line joining positions (38°N 00°) and (38°N 12°E) in the south.
5. North Sea/Baltic region comprises the North Sea, limited by the Straits of Dover and a line running east from Shetland (60°N) to the coast of Norway, and part of the Baltic Sea.

These limits are in no way absolute, but are chosen as a convenient definition which may be adjusted if so required.

Scope of coordination

The coordination will include:

Coordination of data

Compatibility of data
Collection of data
Data format
Dissemination of data.

Coordination of technical topics

Calibration/Intercalibration of sensors
Registration of ODAS
Deployment and recovery of ODAS
Testing of ODAS.

Calibration/intercalibration

The national programmes on which this project is based cover a variety of ODAS regarding design and size. Although most of them are well designed and serve their purpose well, the data from the various ODAS are, unfortunately, not compatible. Compatibility of the data is a paramount demand for this project. Sensors showing reliable and unambiguous results in the laboratory may appear to diverge seriously when exposed to the open rough sea. Furthermore, quite obviously the calibration of the sensors depends, to a certain extent, on the platform on which they are mounted.

The calibration/intercalibration of the ODAS will therefore be carried out in three phases, viz.:

- 1) An initial calibration against standard references will be carried out in laboratories using, by preference, the same facilities. Several participating laboratories have adequate means and the capacity to carry out this task.

¹ World Meteorological Organization.

2) The various ODAS will be intercalibrated, fully equipped, but in sheltered waters and, as far as possible, under uniform conditions, in order to compare the results.

3) For the purpose of checking the consistency and the compatibility of the data, fully equipped ODAS will be deployed under, as far as possible, uniform conditions, preferably nearby or under conditions similar to those at the operation site. This test should cover a substantial time in order to test the systems under various weather and sea conditions.

Deployment, Service and Recovery of ODAS

A substantial part of the expenses involved in the execution of this project goes to provide ships for deployment, service and recovery of ODAS. It is then proposed that the use of the ship's time can be optimized in connection with deployment and regular servicing by mutual arrangement between the participating laboratories. However, in the case of emergencies such as lost or drifting ODAS, all participating countries are encouraged to give priority to the recovery of ODAS, providing this can be done without seriously interfering with other programmes.

In order to increase the benefit of the network by ensuring the best possible coverage of ODAS, the participating countries which are not capable of deploying ODAS within the waters under their jurisdiction, should encourage other nations to do so.

Data Transmission

The data will be transmitted by means of various transmission systems, from ODAS to shore stations, which will re-transmit them to a central station. Subject to the satisfactory proving of the accuracy of the system, the central station(s) will disseminate the data according to the standard format of the WMO to the various national centres who, in turn, will provide the users with the data.

II. Description of the pilot network

The regions are described in the following order:

- A = Azores
- B = Bay of Biscay
- C = Faroes/Shetland
- D = Mediterranean
- E = North Sea/Baltic

The items of each region are listed in the following order:

1. Participating countries and their individual contribution.
2. List and location of the ODAS¹
3. Parameters
4. Transmission system
5. Shore stations
6. Central Station
7. Deployment, service and recovery of the ODAS
8. Timetable

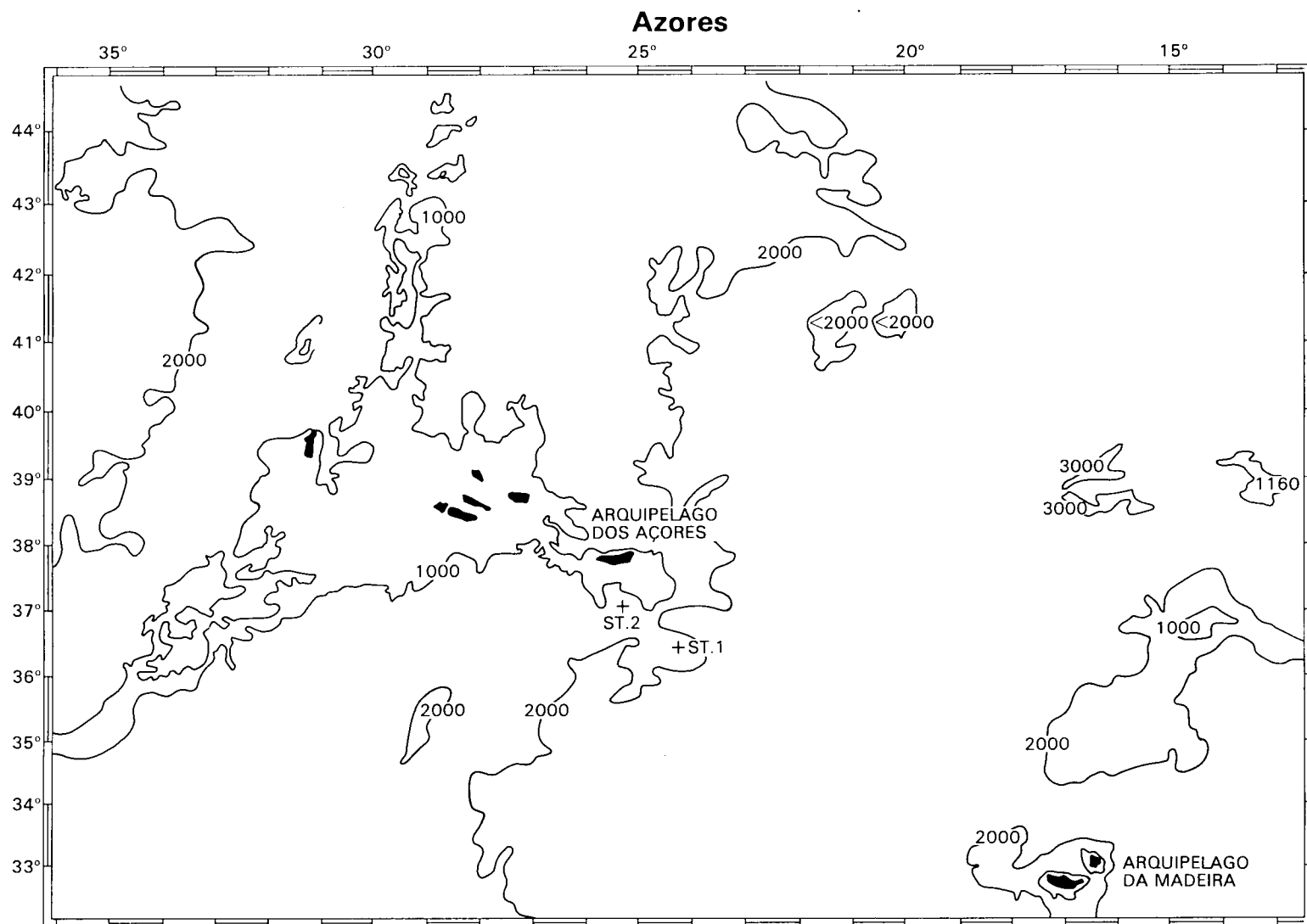
II.A AZORES

1) Participating countries and their individual contributions

France: Shore-station; know how, calibration/intercalibration facilities.

Portugal: 7 ODAS; deployment, recovery and service ships at appropriate opportunities; central station.

¹ The location of ODAS will be subject to operational requirements and may be varied.



Spain: 11 ODAS; deployment, recovery and service ships at appropriate opportunities; calibration/intercalibration facilities.

2) *List and Location of the ODAS*

St.	Position	Type of ODAS	Start of operation	Sampling interval	Country
1	36°24'N, 24°14'W	LCB NOMAD DATA	1976		Portugal
2	37°02'N, 25°20'W	WELL WAVE	1976		Portugal
3		LCB	Planned		Spain
4-13		LDB MET + OCEAN	Planned		
14-18		LDB MET + OCEAN	Planned		Portugal

LCB = Low Capability Buoys

LDB = (Light Drifting Buoys, used as drifting buoys).

3) *Parameters*

St. No. 2 Wave data

St. Nos. 1—3

St. Nos. 4—13 Pa = atmospheric pressure
Ta = air temperature
Ts = sea surface temperature
W = wind

Pos. = position (which is applied to determine drift or current in Lagrangian coordinates)

4) *Transmission system*

St. Nos. 1—3 VHF

St. Nos. 4—18 ARGOS system as used in TIROS N satellite.

5) *Shore Stations*

St. Nos. 1 and 2 Azores

St. No. 3

St. Nos. 4—13 Toulouse (CNES)

St. Nos. 14—18 Toulouse (CNES)

6) *Central Station*

Lisbon

7) *Deployment, service and recovery of the ODAS*

Spain and Portugal will provide adequate ship facilities at appropriate opportunities and undertake the deployment and service of the ODAS stations. France will contribute with technical expertise and provide the shore station facilities for operating the LDBs.

8) *Timetable*

1977 (a) St. Nos. 1 and 2 in operation

(b) Operational studies of the surface water circulation and hydrograph of the zone in order to select the best site for the deployment of LDBs.

(c) Decision by Spain on the specifications and design of the VHF system to be used with the LCB.

1978 (a) Preparation of the equipment and the operation.

(b) Calibration/intercalibration of the equipment.

(c) ¹

¹ During a one-year period (July 1978-July 1979), the regional sub-groups of the Azores and the Bay of Biscay will carry out a joint programme within the framework of COST 43. This programme is based on approximately 24 drifting buoys, type L 55 and Babeth (CNEXO), using the ARGOS system of the TIROS-N satellite. The positions for the buoys will be determined later.

- 1979 (a) Implementation of the project.
 (b) Exchange of data with other pilot networks.

1980 (a) Evaluation of the results obtained by the pilot network for use as a basis for an integrated European network.

II.B. BAY OF BISCAY

1) *Participating countries and their individual contributions*

France: 8 ODAS; shore station; central station; deployment, service and recovery ships at appropriate opportunities; Calibration/intercalibration facilities.

Ireland: Contribution to service and recovery at appropriate opportunities.

Portugal: Service and recovery ships at appropriate opportunities.

Spain: Service and recovery ships at appropriate opportunities.

United Kingdom: Service and recovery ships at appropriate opportunities.

2) *List and Location of the ODAS*

St. No.	Position	Type of ODAS	Type of data	Start of operation	Sampling interval	Country
1	not defined	LCB	MET + OCEAN			France
2	not defined		MET + OCEAN			France
3	not defined	LCDB	MET + OCEAN			France
8						

LCB = Low Capability Buoys

LCDB = Low Capability Drifting Buoys.

3) *Parameters*

St. Nos. 1—8 Pa = atmospheric pressure
 Ta = air temperature
 Ts = sea surface temperature
 Td = sub-surface temperature
 W = wind
 H = wave (provided satisfactory development of the sensors)

4) *Transmission System*

ARGOS system as used in the TIROS N satellite.

5) *Shore Stations*

St. Nos. 1—8 Toulouse (CNES)

6) *Central Station*

St. Nos. 1—8 Brest (COB)

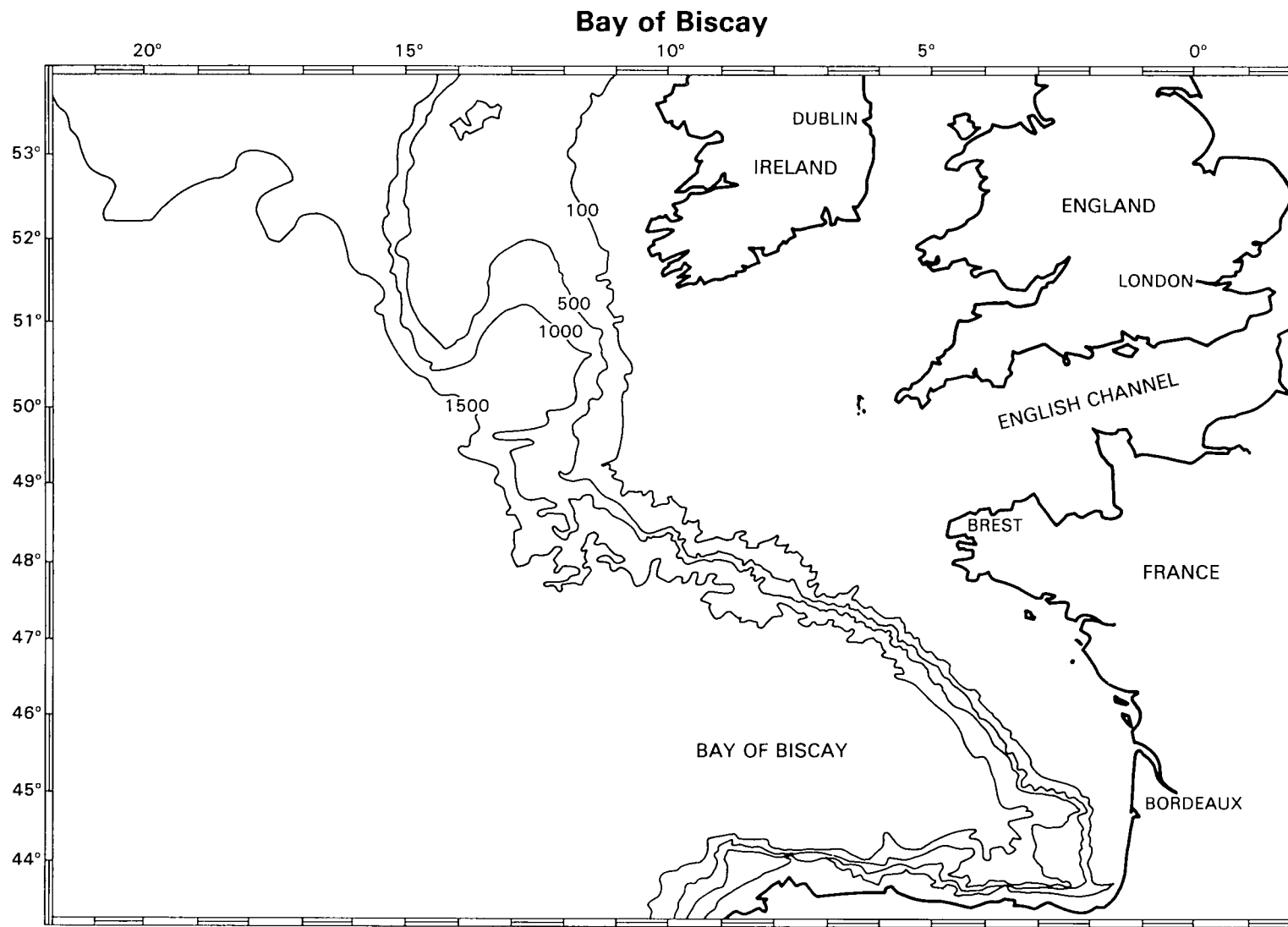
7) *Deployment, service and recovery of the ODAS*

France will provide adequate ship facilities and undertake the deployment of and service of the ODAS stations at appropriate opportunities.

Ireland, Spain, Portugal and the United Kingdom will contribute to the service and recovery of the ODAS at appropriate opportunities.

8) *Timetable*

1977 (a) French pilot project using 2 type L55 LCBs started in 1976 will be kept in operation till March 1977 using the NIMBUS-6 satellite.



The following parameters are measured at one minute intervals:

Pa = air pressure

Ta = air temperature

Ts = surface temperature

W = wind speed and direction

Pos. = position (which is applied to estimate the drift or currents in Lagrangian co-ordinates)

(b) Development and evaluation of the sensors to be used in the project.

1977—78 Exchange of information regarding the study of currents among the various countries concerned.

1978

1979 Setting-up the network and exchange of data and information with other pilot networks.

1980 Evaluation of the results obtained by the pilot network for use as a basis for an integrated European network.

II.C. FAROES/SKETLAND

1) Participating countries and their individual contributions

Denmark/

Faroe Islands: 1 ODAS; deployment, service and recovery ships at appropriate opportunities; shore station.

Norway: 5.5. ODAS; deployment, service and recovery ships at appropriate opportunities; shore-stations; central station; calibration/intercalibration facilities.

United Kingdom: 2.5 ODAS; deployment, service and recovery ships at appropriate opportunities; calibration/intercalibration facilities.

2) List and Location of the ODAS

St. No.	Position	Type of ODAS	Type of data	Start of operation	Sampling interval	Country
1	64°30'N, 04°E	BS*	Met + ocean	1976	3 hours	Norway
2	72°N, 18°E	BS	Met + ocean	1976	3 hours	Norway
3	61°10'N, 06°W	WAVE RIDER	Wave	1976		Denmark/ Faroese
4	BRENT.B 61°03'N 01°43'E	OIL PLATFORM	Met + ocean	1977	3 hours	United Kingdom
5	STATFJORD 61°12'N 1°49'E	OIL PLATFORM	Met + ocean	1976	3 hours	Norway
6	67°30'N, 04°E	BS	Met + ocean	1977	3 hours	Norway
7	60°N, 04°W	BS	Test	1977		Uk/Norway
8	65°N, 10°W	BS	Met + ocean	1978	3 hours	Norway
9			Met + ocean	1978		United Kingdom

* BS = Norwegian telemetering data buoy (Chr. Michelsen Inst. Bergen)

3) Parameters

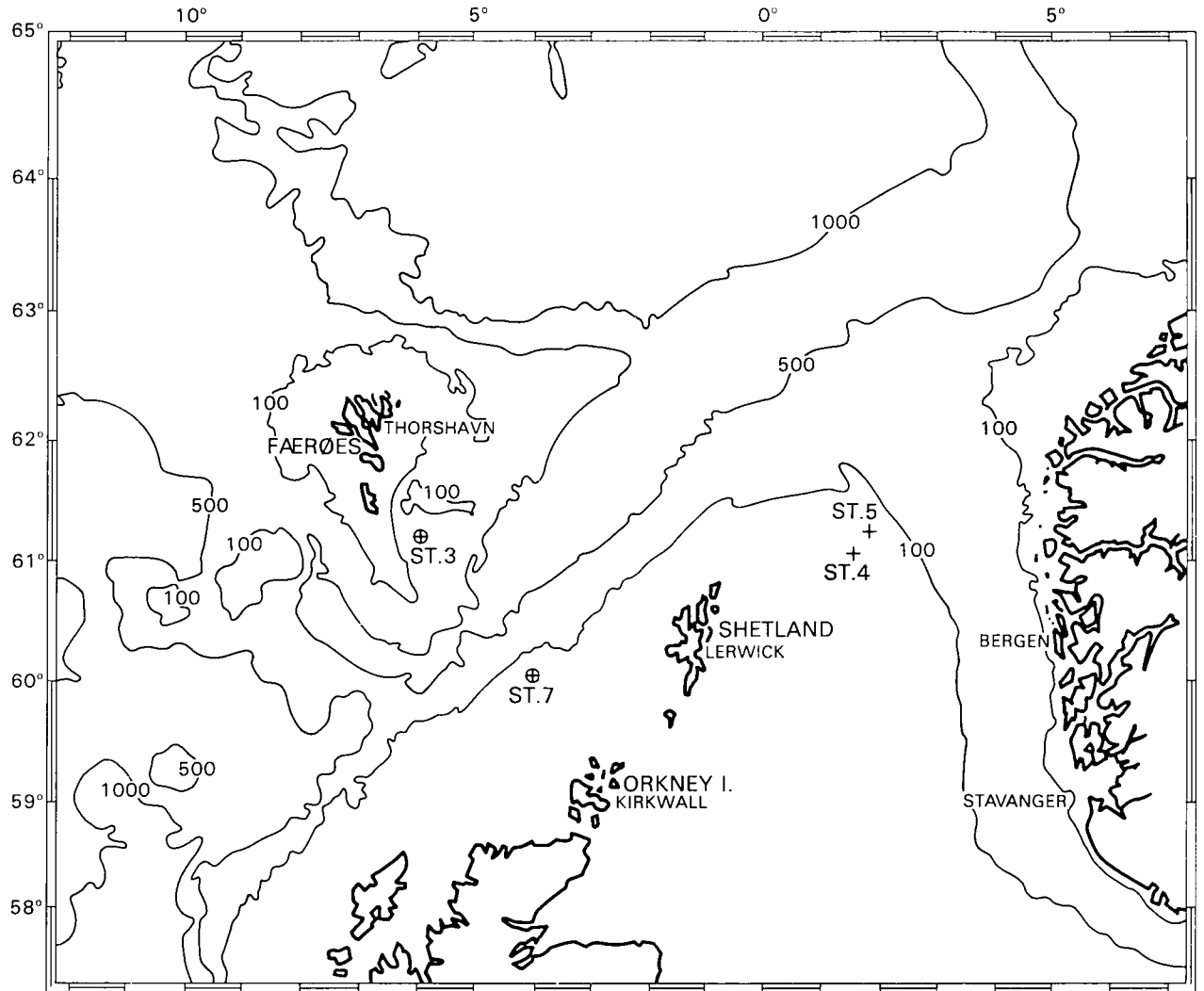
St. Nos. 1, 2, 6 and 8 are: Pa = atmospheric pressure

Ta = air temperature

Ts = sea surface temperature

¹ During a one-year period (July 1978—July 1979), the regional sub-groups of the Azores and the Bay of Biscay will carry out a joint programme within the framework of COST 43. This programme is based on approximately 24 drifting buoys, type L 55 and Babeth (CNEXO), using the ARGOS system of the TIROS-N satellite. The positions for the buoys will be determined later.

Faeroes / Shetland



Td = sub-surface temperature
W = wind
H = waves
C = current

St. No. 3 H = waves

St. Nos. 4 and 5 Pa = atmospheric pressure
Ta = air temperature
Ts = sea surface temperature
W = wind
R = precipitation
Dp = dew point

St. Nos. 7 and 9 = Not yet decided.

4) *Transmission System*

St. Nos. 1, 2, 6, and 8 HF two-tone frequency shift (FSK)
St. No. 3 Principal transmission system is HF
St. Nos. 4 and 5 Not decided yet
St. No. 9 HF (frequency shift or PICCOLO)

5) *Shore Stations*

Norway Bergen, Ørlandet.
United Kingdom Bracknell.
Faroes Suderøy.

6) *Central Station*

Bergen (for the Norwegian ODAS)

7) *Deployment, maintenance and recovery of ODAS*

Denmark (Faroe Islands), Norway and the United Kingdom will contribute with ships for deployment, service and recovery at appropriate opportunities.

8) *Timetable*

1977 St. Nos. 1 and 2 in operation since 1976.

Meteorological stations in operation on oil rigs.
Further development of sensors and equipment.

St. No. 6 in operation.
UK/Norway carry out field tests on transmission systems.
Calibration/intercalibration of sensors and system.
Decide on sensor types.

1978 Decision on transmission system and shore stations for the FSK/PICCOLO system.
Deployment of St. Nos. 8 and 9.

1979 Exchange of data with other pilot networks.

1980 Evaluation of the results obtained by the pilot network for use as a basis for an integrated European network.

II.D. MEDITERRANEAN

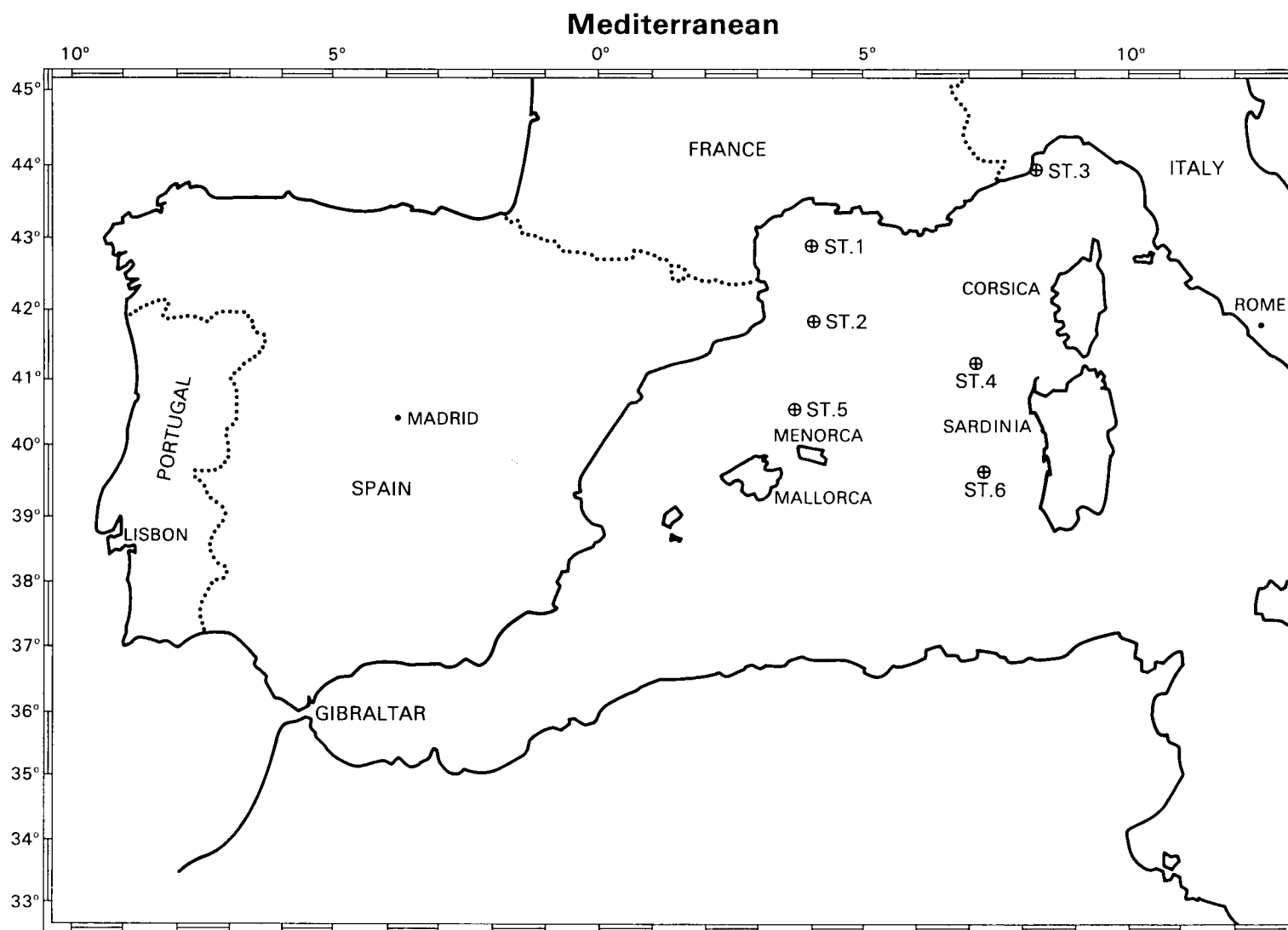
1) *Participating nations and their individual contributions*

Belgium: 1 ODAS

France: 2 ODAS; deployment, service and recovery of the ODAS at appropriate opportunities; shore-station; central station; calibration/intercalibration facilities; study on HF ionospheric propagation system.

Italy: 2 ODAS; deployment, service and recovery of the ODAS at appropriate opportunities; central station; calibration/intercalibration facilities.

Spain: 1 ODAS; deployment, service and recovery of the ODAS at appropriate opportunities; central station; calibration/intercalibration facilities.



2) List and Location of the ODAS

St. No.	Position	Type of ODAS	Type of data	Start of operation	Sampling interval	Country
1	43°N, 4°E	LCB	Met + ocean	1976		France
2	42°N, 4°E	Bohra II	Met + ocean	1976		France
3	44°N, 8°E	Frassetto	Met + ocean	1976		Italy
4	41°N, 7°E					Belgium
5	40°20'N, 3°40'E		Met + ocean	Planned		Spain
6	39°40'N, 7°10'E					Italy

LCB = Low capability Buoy

BOHRA II = Platform

The FRASSETTO Buoy = Large Buoy

3) Parameters

(Proposed parameters in order of priority)

Pa = atmospheric pressure

Ta = air temperature

Ts = sea surface temperature

W = wind

C = current

H = waves

4) Transmission System

The principal transmission system will be an HF remotely controlled frequency system.

5) Shore Station

Brest, (COB)

6) Central Stations

Rome, Paris and Madrid.

7) Deployment, service and recovery of the ODAS

France, Italy and Spain will provide ships for the deployment, service and recovery of the ODAS at appropriate opportunities.

8) Timetable

1977 (a) Development and evaluation of the HF transmission system.

(b) St. Nos. 1—3 in operation.

(c) Development and evaluation of sensors for the ODAS planned.

(d) Calibration/intercalibration of the sensors and the system.

1978 Testing of the minimum pilot network and, on the basis of the results, deployment of supplementary stations.

1979 Exchange of data with the other pilot networks.

1980 Evaluation of the results obtained by the pilot network for use as a basis for an integrated European network.

II.E. NORTH SEA/BALTIC

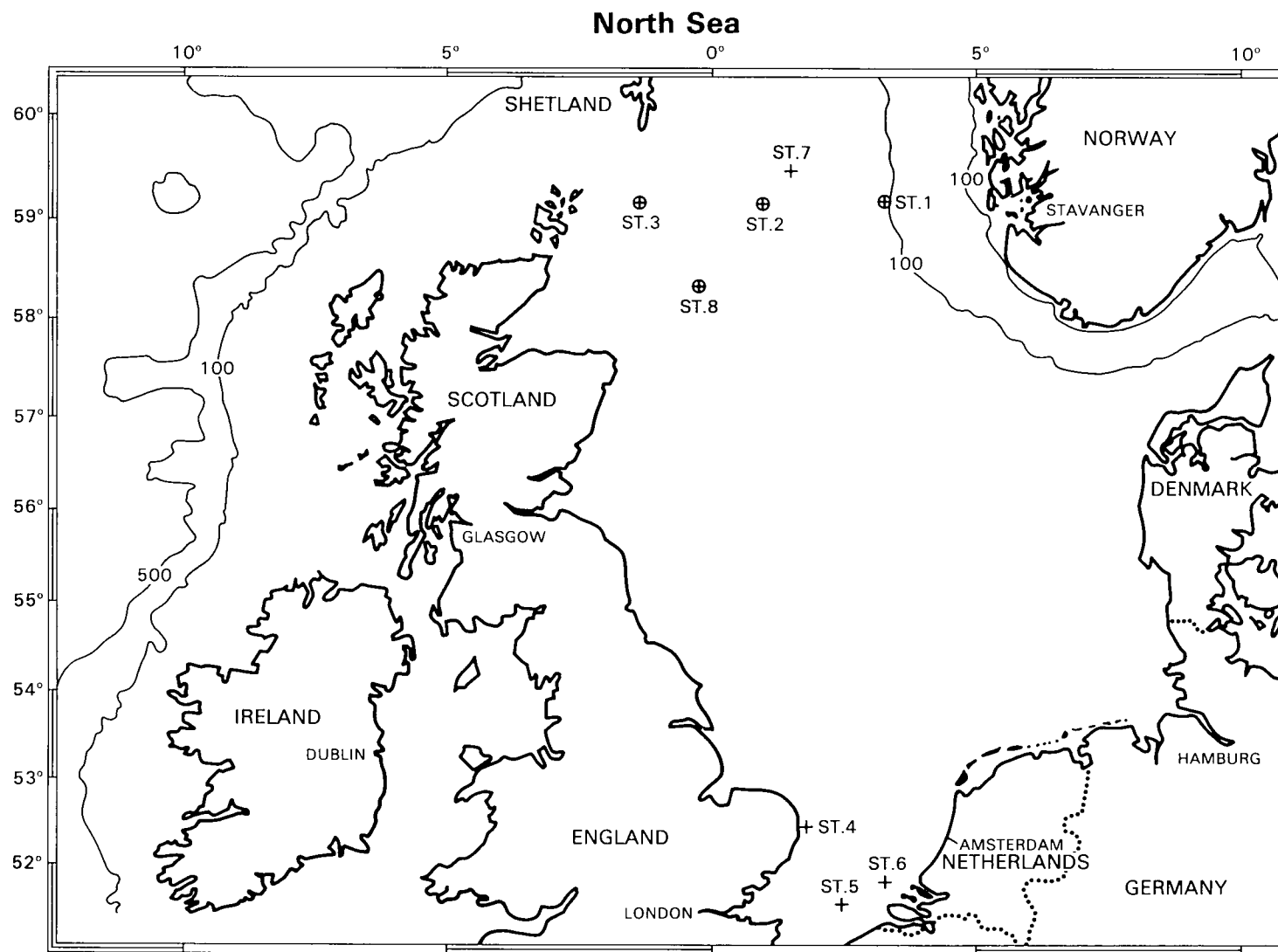
1) Participating countries and their individual contributions

Belgium: 2 ODAS; deployment, service and recovery ships at appropriate opportunities.

Denmark: 1 ODAS; deployment, service and recovery ships at appropriate opportunities.

Finland: 3 ODAS; deployment, service and recovery ships at appropriate opportunities.

France: 1 ODAS, calibration/intercalibration facilities.



Norway 2 ODAS; deployment, service and recovery ships at appropriate opportunities; calibration/intercalibration facilities.

Sweden: 2 ODAS; deployment, service and recovery ships at appropriate opportunities.

United

Kingdom: 3 ODAS; deployment, service and recovery ships at appropriate opportunities, calibration and intercalibration facilities.

North Sea

2) List and Location of the ODAS

St. No.	Position	Type of ODAS	Type of data	Start of operation	Sampling interval	Country
1	59°15'N, 01°E	BS	Met. + ocean	1976	3 hours	Norway
2	59°15'N, 03°20'E	BS	Met. + ocean	1977	3 hours	Norway
3	59°15'N, 01°15'W		Met. + ocean	1976		France
4	52°24'N, 01°48'E	DB 1*	Met. + ocean	1976		United Kingdom
5	51°30'N, 02°30'E		Met.	1976		Belgium
6	51°45'N, 03°20'E		Met. + ocean	1976		Belgium
7	Beryl A 59°32'N, 01°33'E	OIL PLATFORM	Met.	1976	3 hours	United Kingdom
8	Piper occidental 58°25'N, 00°12'E	OIL PLATFORM	Met.	1977	3 hours	United Kingdom

* DB 1 = Data Buoy 1

Baltic

2) List and Location of the ODAS

St. No.	Position	Type of ODAS	Type of data	Start of operation	Sampling interval	Country
9	57°13'N, 10°45'E	LIGHT PLATFORM	Met. + ocean	1976		Denmark
10	57°40'N, 11°40'E	STATION	Met. + ocean	1976		Sweden
11	59°10'N 19°10'E	STATION	Met. + ocean	1976		Sweden
12	65°26'N, 24°13'E	PLATFORM	Met. + ocean	1976		Finland
13	64°20'N, 23°27'E	PLATFORM	Met. + ocean	1976		Finland
14	59°59'N, 25°36'E	PLATFORM	Met. + ocean	1976		Finland

Stations Nos 13 and 14 comprise a fixed tower for meteorological sensors and a buoy equipped with oceanographical sensors.

3) Parameters

The following parameters will be measured on the North Sea ODAS and transmitted in real time.

St. No.	Pa	Ta	W	Dew-point	Solar rad.	Conduc-tivity	Waves	Water level	Ts	Td	Current	Visi-bility	Rain
1	x	x	x				x		x	x	x		
2	x	x	x				x		x	x	x		
3	x	x	x										
4	x	x	x	x		x	x	x	x		x	x	x
5	x	x	x		x	x	x		x	x			
6	x	x	x		x	x	x		x	x			
7	x	x	x	x									
8	x	x	x	x									

3) Parameters

In the Baltic Sea the following parameters will be measured and transmitted in real time.

St. No.	Pa	Ta	W	Dew-point	Solar rad.	Visi-bility	Preci-pitation	Cloud height	Wind gust	Cond.	Waves	Water level	Ts	Cur-rent	Ice force
9	x	x	x			x				x	x	x	x	x	
10	x	x	x	x				x		x		x	x	x	
11	x	x	x	x		x		x		x			x	x	
12	x	x	x	x	x	x	x		x	x			x	x	x
13	x	x	x	x	x	x	x		x	x			x	x	x
14	x	x	x	x	x	x	x		x	x			x	x	x

4) Transmission System

The principal transmission system will be via Meteosat. However, other systems will also be used, such as VHF, HF PICCOLO and GPO troposcatter link.

5) Satellite Receiving Station

Not yet decided.

6) Central Station

Not yet decided.

7) Deployment, maintenance and recovery of the ODAS

Belgium, Denmark, Finland, France, Norway, Sweden and the United Kingdom will participate in the deployment, service and recovery operations at appropriate opportunities.

8) Timetable

1977 (a) The station will be in operation using a preliminary transmission system.

(b) Development and tests of the various sensors.

(c) Decision on sensors, sampling intervals, observation hours and data format.

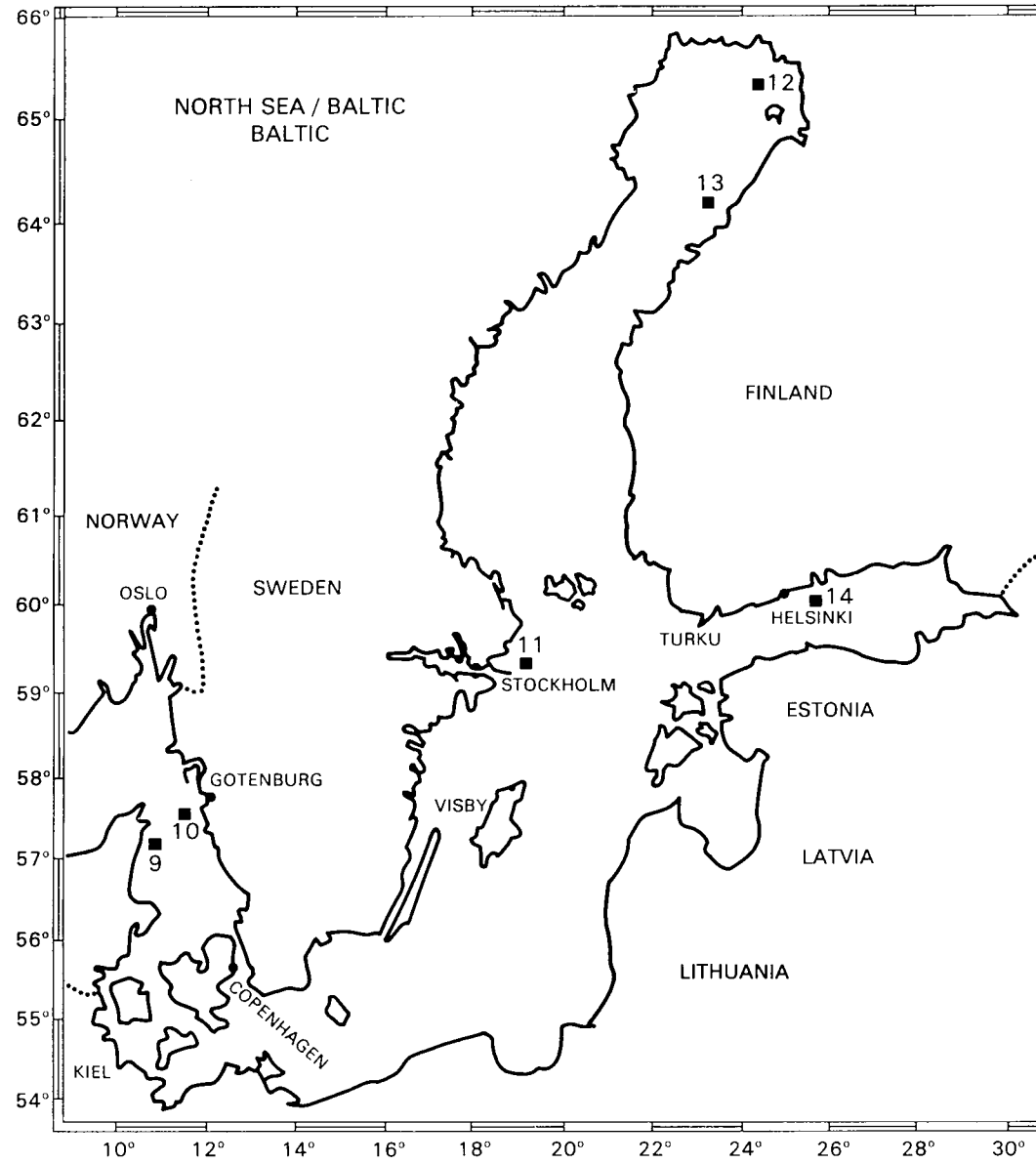
(d) Implementation of data exchange via the GTS of the WMO.

1978 The Meteosat transmission system will be evaluated and its adoption considered.

1979 Exchange of data with the other pilot networks.

1980 Evaluation of the results obtained by the pilot network as basis for an integrated European network.

Baltic



ANNEX II

Legal status of ODAS

Article I

Definition of terms

1. Ocean Data Acquisition Systems, Aids and Devices placed under COST Project 43 are hereinafter referred to as ODAS COST 43.
2. ODAS COST 43 means a structure, platform, installation, buoy or other device, not being a ship, together with its appurtenant equipment, deployed at sea primarily for the purpose of collecting, storing or transmitting samples or data relating to the marine environment or the atmosphere or the uses thereof. The various terms used in describing ODAS COST 43 in these Articles and in the annexes thereto are defined below:
 - (a) 'manned': a device designed so as to require the continuous attendance on board, on a full-time basis, of one or more persons while the device is in operation; the term includes devices manned on a seasonal or other periodic basis of substantial duration;
 - (b) 'unmanned': any device not included in the definition of a 'manned' ODAS;
 - (c) 'anchored': a device buoyant in or on the water and designed to be anchored, moored or maintained in a constant position by any appropriate system;
 - (d) 'drifting': a device designed to be buoyant in or on the water and free to move, but not having the capability to change its course to avoid collision;
 - (e) 'surface penetrating': a device so designed that part of it penetrates the air-sea interface;
 - (f) 'sub-surface': a device designed to be deployed entirely below the air-sea interface;
 - (g) 'bottom-bearing': a device designed to be physically supported by the sea bed or the subsoil thereof.
3. 'Station' means a geographical location occupied from time to time by an ODAS COST 43.
4. 'Registry State' means the State that has established a special register for ODAS COST 43 or the State in which an ODAS COST 43 is so registered.
5. 'Person' means a legal or physical person.
6. 'Placing' means the setting up of ODAS COST 43.
7. 'Deployment' means using, employing, exploiting or operating ODAS COST 43.
8. 'Owner' means the State or person in whose name an ODAS COST 43 is registered.
9. 'Operator' means the State or person authorized by the owner to deploy an ODAS COST 43.

Article 2

Scope and effect

1. These Articles shall apply to all ODAS COST 43 which are registered in accordance with Article 4.
2. These Articles shall also apply to measuring equipment other than that referred to in Article 1(2) where the said equipment is deployed under COST Project 43 separately from the vessel or platform on which it is carried.
3. Nothing in these Articles shall require States participating in COST Project 43 to introduce new national law.

Article 3

Deployment

States which participate in COST Project 43 shall, subject to applicable national and international law, encourage the placing and deployment in waters under their jurisdiction of ODAS COST 43.

Article 4

Registration

1. A state which deploys or authorizes the deployment of an ODAS COST 43 shall cause to be established a special register in the form set out in Annex 4 and in which all such ODAS shall be entered.
2. A certificate of conformity with the standards laid down in Annexes 2 and 3 shall be required as a condition of registration. In each Registry State this certificate shall be issued by a competent authority the name of which shall be communicated to the Committee. Furthermore, the competent national authorities shall keep the Committee fully informed concerning the activities of all ODAS COST 43 registered in that State.
3. No ODAS COST 43 may be registered by more than one Registry State.
4. Any ODAS COST 43 which becomes permanently inoperative shall be removed from the register in which it has been entered, once it has been withdrawn or once its loss has been noted.

Article 5

Notification

States shall ensure that the owner or operator, as the case may be, of an ODAS COST 43 is required to give notice to the competent authorities of the deployment of and activities relating to that ODAS, including its withdrawal or loss, and provide other relevant information to the competent authorities for dissemination, in accordance with the provisions of Annex 1.

Article 6

Marking and signals

All ODAS COST 43 must comply with the marking and signal requirements prescribed in Annex 2.

Article 7

Construction arrangements and other safety provisions

All ODAS COST 43 must comply with the provisions of Annex 3.

Article 8

Requirements in matters of safety of employment

In accordance with the applicable rules of national and international law safety zones may be created around ODAS COST 43. Notice of the establishment of such zones shall be given in accordance with the provisions of Annex 1.

Article 9

Recovery and return

1. When any competent authority in a State participating in COST Project 43 receives information on the recovery of an ODAS COST 43 or any equipment referred to in Article 2(2), the competent authority in the Registry State and if possible the owner or operator shall be informed immediately.
2. After checking and inspection by a representative of the owner or operator, the recovered ODAS COST 43 or equipment shall be made available for return as soon as possible to the owner or operator at his request and at his expense.

If the owner or operator so wishes the data or recordings in the ODAS COST 43 may be extracted and returned separately within an even shorter time.

3. A reward in accordance with the scale in Annex 5 shall be paid by the owner or operator to the person who recovers and returns the ODAS COST 43 or the equipment of an ODAS COST 43.
4. States participating in COST Project 43 shall take all suitable measures to facilitate the return of recovered ODAS COST 43.
5. This Article shall take effect subject to national and international law.

Article 10

Salvage

1. An ODAS COST 43 shall not be subject to the rules of salvage unless its owner or operator contracts for the salvage thereof.
2. This Article shall apply without prejudice to Article 9 and without prejudice to applicable national and international law.

NOTIFICATION

Part 1

Notice of activities and information concerning ODAS COST 43

1.1. *General*

- 1.1.1. The availability of relevant information to mariners is of primary importance for the safety of both ODAS COST 43 and vessels. Each Registry State shall advise, through its appropriate national authority, the corresponding authority of at least one of the Governments issuing charts, notices to mariners and nautical publications on a world-wide basis, of the essential details of an ODAS COST 43 which constitute or might constitute a danger to shipping and safe navigation, so that such information can be given the widest possible dissemination.

1.2. *Details to be reported by the operators to the authorities concerned*

1.2.1. Primary reports are to include the following information:

All ODAS COST 43:

- (a) Identification number and radio identification code where there is a radio transmitter;
- (b) Owner's or operator's name and address, telex and telephone no;
- (c) Size and configuration;
- (d) Whether manned or unmanned;
- (e) Markings and signal characteristics, including daymarks, lights, fog signals, etc.
- (f) Geographical position of deployment;
- (g) Intended data and duration of deployment;

In addition where applicable:

- (h) Hazardous substances used aboard;
- (i) A description of equipment which might constitute a hazard to surface and sub-surface craft such as wires, chains, scientific equipment, etc.;
- (j) Safety zones (Article 8 refers)

For drifting ODAS COST 43 only:

- (k) Anticipated track and estimated speed of drift (see paragraph 1.2.2. below)

- 1.2.2. Qualifying reports are to be made as necessary, to notify termination of deployment (including any ODAS COST 43 which is not to be recovered), wreck, distress and other significant changes that may effect safety, such as change in signal characteristics, or their known or suspected malfunctioning, known or suspected instance of breaking adrift, etc.

For drifting ODAS COST 43 only:

Geographical position is to be reported, if known, at reasonable intervals, for promulgation through radio navigational warnings (the frequency of such reports should be consistent with the requirements of safety and the cost of such warnings which are borne by the owner or operator).

1.3. *Promulgation of reports*

- 1.3.1. The receipt of reports referred to in paragraphs 1.2.1. and 1.2.2. above by the appropriate national authorities does not bind that authority to promulgate all the details given in such a report.

Part 2

Schedules

2.1. General

- 2.1.1. As much information as possible concerning position and dates of deployment and removal of an ODAS COST 43 which constitutes or might constitute a danger to shipping and safe navigation, shall be notified well in advance. Such information shall be updated, as necessary, and confirmed when actual deployment or removal takes place.

2.2. Period of advance notice

- 2.2.1. Notices of activities and as detailed information as possible concerning ODAS COST 43, as listed in paragraph 1.2.1. above, should be forwarded well prior to any deployment or other action, and, if possible, so that it is received not less than two months in advance by the appropriate national authority which will be responsible for publication of the information by notice to mariners.
- 2.2.2. Information received too late for dissemination by this method, may be promulgated by radio navigational warnings at the discretion of the appropriate national authority but at the expense of the owner or operator.

Part 3

Danger messages

3.1. General

- 3.1.1. Every shipmaster who observes an ODAS COST 43 inadequately marked or a charted ODAS COST 43 off station which thereby constitutes a danger to shipping and safe navigation, shall broadcast the information to all ships in the vicinity and send it to the first point on the coast to which communication can be made, with a request that it be transmitted to the appropriate authorities.
- 3.1.2. Each State participating in COST Project 43 will take all steps necessary to ensure that when information specified in paragraph 3.1.1. above is received, it will be promptly brought to the knowledge of those concerned and communicated to other interested governments.
- 3.1.3. The transmission of messages respecting matters specified in paragraph 3.1.1. above, shall be free of cost to the ships concerned.
- 3.1.4. All radio messages issued under paragraph 3.1.1. above shall be preceded by TTT Navigation, as prescribed in the Radio Regulations in force of the International Telecommunication Union.

3.2. Form of message

- 3.2.1. Messages respecting matters specified in paragraph 3.1.1. above, shall be prepared in the following form:

Examples:

- (a) 'TTT Navigation. ODAS COST 43 'X' not in position. 0700 GMT 5 February.'
- (b) 'TTT Navigation. Observed ODAS COST 43 identification number ODAS-35-FRA drifting in 5505 N. 0512 E at 1430 GMT 17 May.'

MARKING AND SIGNALS

Part 1

Identification and marking

1.1. General

- 1.1.1. Every ODAS COST 43 entered in an ODAS COST 43 register shall be assigned a unique identification number prefixed by the letters 'ODAS' and suffixed by letters indicating in abbreviated form the Registry State taken from the Table of Allocation of International Call Sign Series of the Radio Regulations in force promulgated by the International Telecommunication Union.
- 1.1.2. Every ODAS COST 43 shall display its identification number clearly on an exterior surface where it can best be seen and, in addition, if feasible, the name and address of its owner.
- 1.1.3. Should the Owner or Operator of an ODAS COST 43 wish it to be subject to the rules of salvage in accordance with Article 10, such ODAS COST 43 shall bear a clearly visible special sign to this effect

1.2. Surface-penetrating ODAS COST 43

- 1.2.1. Surface-penetrating ODAS COST 43 shall have their visible portions painted yellow. Drifting ODAS should carry an inscription in several languages stating that its purpose is to drift freely and that it should not be recovered by unauthorized persons.

Part 2

Lights and signals

2.1. General

- 2.1.1. The lights and signals referred to hereunder shall be positioned in places where they can best be seen or heard.
- 2.1.2. A satisfactory radar response at a distance of at least two miles shall be ensured for an ODAS COST 43 which constitutes a danger to shipping and safe navigation, and every effort shall be made to increase this range where the size of the ODAS COST 43 allows.

2.2. Surface-penetrating ODAS COST 43 other than bottom-bearing ODAS COST 43

- 2.2.1. Surface-penetrating ODAS COST 43 of all types other than bottom-bearing ODAS COST 43 shall:
 - (a) exhibit from sunset to sunrise and in the case of manned ODAS COST 43 also in conditions of poor visibility, a yellow light visible all round the horizon with, where technically practicable, a nominal range of at least 5 miles, exhibiting a group of 5 flashes every 20 seconds, the flash rate not to exceed 40 per minute.
 - (b) carry a sound signal where the installation thereof is technically practicable, of such a nature that it cannot be confused with neighbouring aids to navigation, nor with sound signals made in compliance with the International Regulations for Preventing Collisions at Sea.

2.3. Surface-penetrating ODAS COST 43 which are bottom-bearing ODAS COST 43

- 2.3.1. Bottom-bearing, surface-penetrating ODAS COST 43 shall be marked and carry lights and sound signals in the same manner as 'a structure in the sea', e.g. drilling platforms, as is customary in the area concerned.

2.4. *Sub-surface ODAS COST 43*

- 2.4.1. Sub-surface ODAS COST 43 of all types which, due to the depth at which they are deployed, constitute a danger to shipping and safe navigation or fishing gear, shall when they are not escorted by an attending vessel capable of giving warning(s) of its presence to passing ships, be marked by a surface buoy exhibiting lights and complying with the requirements for sound signals in paragraph 2.2.1. above.

Part 3

Modification or waiver

3.1. *General*

- 3.1.1. The requirements of Parts 1 and 2 may be modified or waived by the Registry State, subject, where relevant, to the concurrence of the State providing aids to navigation in the area concerned and at the risk of the operator, if such a waiver or modification does not result in the ODAS COST 43 becoming a danger to shipping and safe navigation.

Part 4

Inspection

4.1. *General*

- 4.1.1. The Registry State should establish and maintain an effective system of inspecting the marking and signal characteristics of all ODAS COST 43 contained in its register, before deployment. (See also Annex 3).

CONSTRUCTION ARRANGEMENTS AND OTHER SAFETY PROVISIONS

Part 1

General Provisions

1.1. *Application*

- 1.1.1. Unless otherwise provided, the present requirements apply to manned ODAS COST 43.
- 1.1.2. The present requirements do not apply to an installation, which has primarily been designed and deployed for purposes other than ocean data acquisition, e.g. off-shore drilling rigs, production platforms, navigational aids, submersibles, etc. even if it is used for ocean data acquisition.

1.2. *Inspection*

- 1.2.1. The Registry State shall establish and maintain an effective system of inspection in order to ensure compliance with the requirements of this Annex.

1.3. *Equivalents*

- 1.3.1. Where in the present requirements any special material, appliance, apparatus or type thereof is specified or provisions made, any other material, appliance, etc., may be allowed, provided the Registry State is satisfied that it is not less effective.

Part 2

Subdivision and stability

2.1. *Subdivision*

- 2.1.1. Any ODAS COST 43 shall comply with such subdivision requirements as may be decided by the Registry State, having regard to the number of persons on board.

2.2. *Reserve of buoyancy*

- 2.2.1. Where practicable watertight compartments shall be provided and the ODAS COST 43 shall have sufficient reserve of buoyancy to remain afloat and be capable of abandonment in the event of any one such compartment being flooded.

2.3. *Intact stability*

- 2.3.1. Surface-penetrating anchored or drifting ODAS COST 43

All units afloat shall have sufficient stability to withstand the heeling effect of wind and waves in any horizontal direction. The quantitative values for the heeling forces and acceptable stability criteria shall be decided by the Registry State having regard to the area of deployment of ODAS COST 43.

- 2.3.2. Surface-penetrating bottom-bearing ODAS COST 43

Bottom-bearing ODAS COST 43 shall have sufficient bearing force and spread of support to withstand the heeling effects of wind and waves in any horizontal direction. The Registry State shall decide the requirements having regard to assumed load conditions relating to the area of deployment of the ODAS COST 43.

- 2.3.3. Sub-surface ODAS COST 43 except bottom-bearing types

Sub-surface ODAS COST 43 other than bottom-bearing types shall have sufficient positive stability in both surfaced and submerged conditions and at all times during transition from one to the other.

Part 3

Fire protection

3.1. General

3.1.1. The purpose of this part is to cover the fire protection for manned ODAS COST 43 which are non-self-propelled but may be provided with powers for dynamic anchoring to require the fullest practicable degree of fire protection for such ODAS COST 43. The basic principles underlying these requirements are:

- (i) separation of accommodation spaces from remainder of the ODAS COST 43 by thermal and structural boundaries;
- (ii) minimum use of combustible materials;
- (iii) avoidance of use of materials that emit toxic vapours and large quantities of smoke under fire condition;
- (iv) detection of any fire in the space of origin;
- (v) containment and extinction of any fire in the space of origin;
- (vi) protection of means of escape or access for fire-fighting; and
- (vii) ready availability of fire-extinguishing appliances.

3.1.2. The requirements of Part 3 shall apply to the manned surface-penetrating ODAS COST 43.

3.1.3. Manned sub-surface ODAS COST 43 shall be provided with adequate means for fire protection to the satisfaction of the Registry State, bearing in mind the requirements for surface-penetrating ODAS COST 43 and the different combustion characteristics of materials in non-atmospheric environment.

3.2. Structure

3.2.1. The hull, superstructure and deck houses shall be constructed of steel or other equivalent material.

3.3. Definitions

3.3.1. Whenever the phrases defined below occur throughout this part, they shall be interpreted in accordance with the following definitions:

(a) *Incombustible material* means a material which neither burns nor gives off inflammable vapours in sufficient quantity to ignite at a pilot flame or other ignition source when heated to approximately 750° (1 382°F). Any other material is a 'combustible material'.

(b) A Standard fire test is one in which specimens of the relevant bulk-heads or decks are exposed in a test furnace to temperatures corresponding approximately to the standard time-temperature curve. The specimen shall have an exposed surface of not less than 4.65 square metres (50 square feet) and height (or length of deck) of 2.44 metres (8 feet) resembling as closely as possible the intended construction and including where appropriate at least one joint. The standard time-temperature curve is defined by a smooth curve drawn through the following points:

at the end of the first	5 minutes — 538°C (1 000°F)
at the end of the first	10 minutes — 704°C (1 300°F)
at the end of the first	30 minutes — 843°C (1 550°F)
at the end of the first	60 minutes — 927°C (1 700°F)

(c) *'A' class divisions* are those divisions formed by bulkheads and decks which comply with the following:

1. they shall be constructed of steel or other equivalent material;
2. they shall be suitably stiffened.

3. they shall be so constructed as to be capable of preventing the passage of smoke and flame to the end of the one-hour standard fire test;

4. they shall be insulated with approved incombustible materials such that the average temperature of the unexposed side will not rise more than 139°C (250°F) above the original temperature nor will the temperature, at any one point, including any joint, rise more than 180°C (325°F) above the original temperature within the time listed below:

Class A-30 30 minutes

Class A-15 15 minutes

Class A-0 0 minutes

5. the Registry State may require a test of a prototype bulkhead or deck to ensure that it meets the above requirements for integrity and temperature rise.

(d) Bulkheads not required to be 'A' class divisions shall be constructed of approved incombustible materials. They need not meet requirements relative to the passage of smoke and flame nor the limiting of temperature rise.

3.4. *Divisions*

3.4.1. Bulkheads and decks which form divisions of the following spaces from each other shall conform to the minimum fire integrity requirements as prescribed in Tables 1 and 2:

- (a) accommodation spaces including living quarters, lavatories, galleys, food lockers and similar spaces;
- (b) laboratory spaces, radio rooms and other spaces which are used for scientific research purposes;
- (c) machinery spaces which are used for generators, batteries, ventilation machinery and similar spaces and trunks to such spaces;
- (d) stairways/ladders and lift enclosures and corridors which constitute the means of escape;
- (e) life-boat and life-raft handling and embarkation stations; and
- (f) open deck spaces.

3.5. *Openings (other than ventilation ducts) in divisions*

3.5.1. Suitable arrangements, to the satisfaction of the Registry State, shall be made to ensure the fire resistance of divisions is not impaired by openings.

3.6. *Means of escape*

3.6.1. Protection of access from the living quarters to the lifeboat or life-craft embarkation areas shall be to the satisfaction of the Registry State.

3.7. *Ventilation systems*

3.7.1. Where ventilation systems penetrate decks, precautions shall be taken to reduce the likelihood of smoke and hot gases passing from one between deck space to another through the system. The main inlets and outlets of all ventilation systems shall be capable of being closed from outside the space in the event of fire. Efficient insulation shall be provided for exhaust ducts from galley ranges where the ducts pass through accommodation spaces.

3.8. *Fire-detection systems*

3.8.1. An automatic fire alarm and fire-detection system of an approved marine type shall be installed where it is considered necessary by the Registry State.

3.9. *Fire extinguishers*

3.9.1. At least one portable fire extinguisher of an approved marine type and design should be provided in a readily accessible position, in each main space. Spare charges shall be provided in accordance with the requirements to be specified by the Registry State.

3.9.2. The Registry State shall, where reasonable and practicable, require that a fixed fire-extinguishing system shall be provided for all machinery spaces where liquid fuel is used for production of electrical power or power for dynamic anchoring purposes, and that special attention be paid to the need to have effective ventilation for spaces containing electric batteries so that explosive vapours will not accumulate in the space.

Table 1 — Bulkheads

Spaces	(a)	(b)	(c)	(d)	(e)	(f)
(a) Accommodation spaces	—	A0	A30	A0	A0	A0
(b) Laboratories*	—	A15	A30	A0	A0	A0
(c) Machinery	—	—	A0	A15	A0	A0
(d) Stairways	—	—	—	A0	A0	A0
(e) Lifeboat or life-raft stations	—	—	—	—	—	—
(f) Open decks	—	—	—	—	—	—

Table 2 — Decks

Space below	Space above					
	(a)	(b)	(c)	(d)	(e)	(f)
(a) Accommodation spaces	A0	A15	A15	A15	A0	A0
(b) Laboratories*	A30	A15	A15	A30	A30	A0
(c) Machinery	A30	A30	A15	A30	A30	A0
(d) Stairways	A0	A15	A15	A0	A0	A0
(e) Lifeboat or life-raft stations	A0	A0	A0	A0	A0	—
(f) Open decks	A0	A0	A0	A0	A0	—

*Note** For laboratories with floor space greater than 50 m² or with high fire load, corresponding values for machinery space shall apply.

Part 4

Life-saving appliances

4.1. General

4.1.1. Personnel engaged in servicing unmanned ODAS COST 43 shall always wear lifejackets and a boat from the attending vessel shall stand by at all times to assist in case of accidents.

4.2. Lifeboats and life-rafts

4.2.1. Each ODAS COST 43 shall be provided with lifeboats of such an aggregate capacity to accommodate twice the number of persons on board, including those brought on board for brief periods and essential to operations. However, life-rafts may be substituted for lifeboats where the Registry State is satisfied that, having in mind such difficulties as safe launching, it would not be reasonable or practicable to provide lifeboats.

4.2.2. Where such substitution is made, the aggregate capacity of the life-rafts shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate.

4.2.3. The Registry State may permit a reduction of the lifeboats and/or life-rafts provided in compliance with subparagraph 4.2.1. above, to an aggregate capacity sufficient to accommodate all persons on board, provided it is satisfied that the following measures are incorporated in the design:

- (i) the ODAS COST 43 would retain sufficient reserve of buoyancy to remain afloat and be capable of abandonment in the event of any one such compartment being flooded; and
 - (ii) as regards fire protection:
 - separation of accommodation spaces from the remainder of the unit by thermal and structural boundaries;
 - detection, containment and extinction of any fire in the space of origin;
 - protection of the means of escape;
 - minimum use of combustibles.
- 4.2.4. In no case shall fewer than two survival craft be provided.
- 4.2.5. The lifeboats and life-rafts shall be so constructed and equipped in accordance with agreed international norms and to the satisfaction of the Registry State.
- 4.3. *Rescue boat*
- 4.3.1. Where practicable, as for instance in bottom bearing ODAS COST 43 and/or ODAS COST 43 with large crews, the carriage of a powered rescue boat may be considered by the Registry State. Such a boat, if carried, shall be available at all times and shall be a type approved by the Registry State. This boat shall be of a type which permits rapid launching, is easily manoeuvred, allows quick recovery of a man overboard and permits towing a life-raft away from immediate danger. The rescue boat shall incorporate the following: ample reserve of buoyancy, rugged construction, adequate proportions to permit taking aboard an unconscious person without capsizing. The propelling machinery shall be easily started in all expected conditions.
- 4.4. Life-jackets of an approved type shall be provided for all persons on board plus 5% of that number.
- 4.5. *Lifebuoys*
- 4.5.1. Each ODAS COST 43 shall be equipped with lifebuoys of an approved type and number to be determined by the Registry State. Some of these lifebuoys shall be equipped with self-igniting lights and self-activating smoke signals. The self-igniting lights shall be of an approved electric battery type. The number and placement of lifebuoys shall be such that a lifebuoy is accessible from exposed locations with particular emphasis on embarkation and debarkation points. At least one lifebuoy on each side of the ODAS COST 43 shall be fitted with a buoyant life-line, the length of which shall be at least $1\frac{1}{2}$ times the distance from the buoy to the waterline at light draft, or 30 m., whichever is greater.
- 4.5.2. On board some ODAS COST 43, where outside storage of lifebuoys is not practical or possible, the Registry State may permit keeping them inside the ODAS COST 43, due account being paid to the obedience of the principle of ready availability.
- 4.6. *Medical first-aid kits*
- 4.6.1. Medical first-aid kits should be readily available to the satisfaction of the Registry State. Each ODAS COST 43 shall, where possible, be provided with a stretcher capable of being used for lifting an injured person into a helicopter.
- 4.7. *Guards and rails*
- 4.7.1. The unprotected perimeter of all floor and deck areas and openings shall where possible be rimmed with guards, rails or other devices to the satisfaction of the Registry State to prevent persons from falling overboard.
- 4.8. *Means of escape and emergency lighting*
- 4.8.1. Sufficient means shall be provided for embarkation into life-saving equipment and personnel boats as appropriate. The means provided should take into account the type and configuration of the ODAS COST 43 and the method of launching the life-saving appliances, and they should require minimum physical exertion. The means of escape to be considered are:
- (a) wherever practicable at least two widely separated fixed metal inclined ladders or stairways, extending from the platform to the surface of the water;

(b) sufficient personnel landings shall be provided on each ODAS to assure safe access and egress. When due to special construction features personnel landings are not feasible, then suitable transfer facilities to provide safe access or egress, satisfactory to the Registry State, shall be provided;

(c) personnel landings where fitted shall be provided with adequate artificial illumination. Sea areas in their vicinity shall likewise be illuminated;

(d) where practicable, emergency power shall be provided for the illuminating purposes described in (c) above in the event of failure of the main generating system or other causes. The source or sources of this emergency power shall be as remote as practicable from the main generating plant and shall provide lighting for a period of time to be determined by the Registry State; and

(e) when arrangements are made for landing helicopters on an ODAS COST 43 means shall be provided for landing lights and other illumination as necessary on or around helicopter landing areas. Landing lights shall be installed in conformance with relevant regulations.

4.9. *Stowage, handling and launching*

4.9.1. Life-saving appliances and equipment shall be positioned or stowed to the satisfaction of the Registry State to provide for:

(a) Distribution at the most easily accessible and/or readily available locations with due regard being given to the particular characteristics, shape and configuration of the ODAS COST 43. The distribution shall be such that a fire or other accident in one part of the unit would not be likely to immobilize all the appliances;

(b) the safe and rapid use of each device or piece of equipment under emergency conditions;

(c) the marshalling of persons on board at muster stations;

(d) such launching devices which might be considered necessary to launch safely survival craft under emergency conditions; and

(e) means for launching rapidly and for recovering the rescue boat, if carried.

4.10. *Person in charge*

4.10.1. On board each ODAS COST 43 the person to whom all personnel on board are responsible in an emergency shall be clearly defined. Such person shall be designated by title by the owner or operator of the ODAS COST 43. He shall be well acquainted with these characteristics, capabilities and limitations of the ODAS COST 43 and be fully cognizant of his responsibilities for emergency organization and action. He may also where it is applicable, be required to conduct emergency drills and training and to keep records of such drills.

4.11. *Muster list*

4.11.1. Each unit shall be provided with a muster list, kept current and revised as necessary to reflect any procedural changes. Each muster list shall be designed to cover such emergencies as may possibly occur, including fire, collision, severe storms, and abandonment. Special duties at specific locations shall be assigned to each regular personnel on board, and the muster list should show all these special duties and indicate to which location each man should go and the duties he is to perform. These duties shall, if possible, be comparable to the regular duties of the individual. All persons on board, other than those regularly assigned, shall be given necessary instructions on their action in cases of emergencies including the location to which they should go and the duties, if any, they would be expected to perform.

4.12. *Emergency drills*

4.12.1. Drills shall be conducted as if an actual emergency existed. All personnel shall report to their respective stations and be prepared to perform the duties assigned to them. The person in charge conducting the emergency drill shall give such instructions to the personnel as are necessary to ensure that all persons are familiar with the alarm signals and with their duties and stations. Drills shall be so conducted as to ensure that persons who cannot participate in an emergency drill on one date will participate in the same type drill held at the next drill period. Drills shall be held as necessary to ensure that all personnel participate at least once a month.

4.13. *Emergency warnings*

- 4.13.1. Each ODAS COST 43 shall be provided with a general alarm system so installed as to be perceptible in all parts of the ODAS COST 43 when operated. Control stations for activating the alarm shall be installed to the satisfaction of the Registry State. The number of signals used shall be limited to the following: general emergency signal, fire signal and abandon ODAS COST 43 signal. These signals shall be described in the muster list.
- 4.13.2. The warning signals given over the general alarm system shall, if practicable, be supplemented by instructions over a public address system.

4.14. *Portable radio apparatus*

- 4.14.1. An approved portable radio apparatus for survival craft shall be carried. Such portable radio shall be kept in a suitable location ready to be moved to one of the survival craft in the event of an emergency. ODAS COST 43 which because of their size, construction, area of operation, may have difficulties in carrying the portable radio, or its use would be impracticable, may be allowed to carry an Emergency Position-Indicating Radio Beacon to the satisfaction of the Registry State.

4.15. *Distress signals*

- 4.15.1. ODAS COST 43 shall be provided, to the satisfaction of the Registry State, with means of making effective distress signals by day and by night, including at least twelve parachute signals capable of giving a bright red light at a high altitude.

Part 5

Radio communication

5.1. *Installation*

- 5.1.1. Each manned ODAS COST 43 shall be fitted with a radio installation capable of operating on at least one of the maritime distress frequencies (500 kHz or 2181 kHz). However, where there is adequate VHF cover, the Registry State may permit the installation of VHF equipment instead, capable of operating on at least Channel 16 (156.8 MHz).

5.2. *Compliance with the relevant regulations*

- 5.2.1. The ODAS COST 43 fitted with radiotelegraph or radiotelephone stations, as the case may be, shall comply with the Radio Regulations of the International Telecommunication Union, and as far as practicable, with the relevant requirements of the International Convention for the Safety of Life at Sea in Force.

Part 6

Dangerous substances

6.1. *General*

- 6.1.1. The requirements of this Part apply to manned and unmanned ODAS COST 43.

6.2. *Safe stowage and marking*

- 6.2.1. Where dangerous substances such as explosives, inflammables, radioactive substances, etc. are carried and used on ODAS COST 43, measures shall be taken for their safe packaging and stowage to the requirements of the Registry State in conformity with the internationally accepted standards¹ as far as practicable.
- 6.2.2. Receptacles for such substances shall be of an approved type and clearly identified with internationally agreed labels² of not less, wherever possible, than 10 cm. square.

¹ For example, see IAEA Safety Series No 33, 'Guide to the Safe Design, Construction and Use of Radioisotopic Power Generators for Certain Land and Sea Applications'.

² The United Nations labelling scheme which has been incorporated in the International Maritime Dangerous Goods Code.

- 6.2.3. The presence of such substances shall be indicated by exhibiting on an exterior surface where it can best be seen, the appropriate label¹, particularly on unmanned ODAS COST 43.

Part 7

Machinery and electrical installations

7.1. *General*

- 7.1.1. The requirements of this part apply to manned and unmanned ODAS COST 43.
- 7.1.2. Requirements for machinery and electrical installations shall conform with accepted good marine practice as determined by the Registry State.

¹ The United Nations labelling scheme which has been incorporated in the International Maritime Dangerous Goods Code.

RECOMMENDED STANDARD FORM FOR REGISTRATION OF ODAS — CONVENTION ON OCEAN DATA ACQUISITION SYSTEMS, AIDS AND DEVICES (ODAS)

EXAMPLE

1	2	3	4	5	6	7	8	9	10
Register No	Name and address of owner and operator	ODAS type	Type of anchorage	Size and configuration	Marking and signal characteristics	Types of data to be collected	Data storage, telemetry (frequency range, schedules)	Hazardous substances	Additional and complementary information, linked programme
	CNEXO (COB) Brest France	Unmanned, anchored, surface-penetrating	Simple multiple dynamic	Diameter Height of structure above water-line Height of mast Displacement	Red and yellow vertical bands QK.FL. 8 secs. Dark 12 secs. Cycle 20 secs. Howler Radar reflector	Wind speed and direction Air temperature, humidity Every 1/2 hour Sea temperature salinity — at surface Current speed and direction at depths of 50, 100, 200 m every 2 hours	Transmitted every 6 hours (0300, 0900, 1500 and 2100 GMT), on 12480.2 HZ. 1000 km range Stored on magnetic tape	No	Deployed as part of COST 43 or IGOSS

SCALE OF REWARDS REFERRED TO IN ARTICLE 9(3)

Current value ¹ of equipment (BF)	Maximum Reward payable (%)	Maximum Reward payable (BF)
Up to 50 000	4	2 000
100 000	4	4 000
150 000	3.5	5 250
200 000	3.5	7 000
250 000	3	7 500
300 000	3	9 000
350 000	3	10 500
400 000	3	12 000
450 000	2.75	12 400
500 000	2.5	12 500
Maximum reward payable		12 500
Minimum reward payable		500

¹ Current value is defined as the initial cost of the equipment, depreciated annually by a percentage to be agreed by the Committee.
Costs of putting the equipment in position are not included.

**International Agreement on the setting up of an
experimental European network of ocean stations
(COST 43)¹**

Date of entry into force: 29. 6. 1979

Duration: 28. 6. 1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	14. 6. 1978	14. 6. 1978
Denmark	15. 12. 1977	29. 6. 1979
France	15. 12. 1977	29. 6. 1979
Ireland	15. 12. 1977	29. 6. 1979
Netherlands	14. 1. 1982	14. 1. 1982
United Kingdom	15. 12. 1977	29. 6. 1979
Spain	10. 4. 1981	10. 4. 1981
Iceland	24. 3. 1981	24. 3. 1981
Norway	15. 12. 1977	29. 6. 1979
Portugal	15. 12. 1977	29. 6. 1979
Finland	15. 12. 1977	29. 6. 1979
Sweden	15. 12. 1977	29. 6. 1979

¹ Not published in the Official Journal.

**Community-COST Concertation Agreement
on a concerted action project in the field of treatment
and use of sewage sludge**

(COST Project 68 bis)

Community-COST Concertation Agreement on a concerted action project in the field of treatment and use of sewage sludge

(COST Project 68 bis)

The European Economic Community, hereinafter referred to as 'the Community', Austria, Finland, Norway, Sweden and Switzerland, hereinafter referred to as the 'participating non-Member States',

Whereas a European concerted research project in the field of treatment and use of sewage sludge is likely to contribute effectively to the reduction of environmental pollution and to more economic use of natural resources;

Whereas a research project directed toward a specific aspect of the problem of sewage sludge, carried out in implementation of an Agreement signed on 23 November 1971 within the framework of European Cooperation in the field of Scientific and Technical Research (COST) (COST Project 68), has produced very encouraging results;

Whereas by its Decision of 27 September 1977 the Council of the European Communities adopted a Community concerted project in the field of treatment and use of sewage sludge;

Whereas the Council of the European Communities agreed on some details of cooperation within the COST framework on 18 July 1978;

Whereas the Member States of the Community and the participating non-Member States, hereinafter referred to as 'the States', undertake research in the fields listed in Annex A and consider that the coordination of this research will be of mutual benefit;

Whereas the implementation of the research covered by the concerted action project will require a financial contribution of about 8 million European units of account from the States,

HAVE AGREED AS FOLLOWS:

Article 1

The Community and the participating non-Member States, hereinafter referred to as 'the Contracting Parties', shall participate for a period extending until 18 October 1980 in a concerted action project in the field of treatment and use of sewage sludge.

This project shall consist in concertation between the Community concerted action programme and the corresponding programmes of the participat-

ing non-Member States. The programmes covered by this Agreement are listed in Annex A.

The States remain entirely responsible for the research executed by their national institutions or bodies.

Article 2

The concertation between the Contracting Parties shall be effected through a Community-COST

Concertation Committee, hereinafter referred to as 'the Committee'.

The Committee shall draw up its rules of procedure. Its Secretariat will be provided by the Commission of the European Communities, hereinafter referred to as 'the Commission'.

The terms of reference and the composition of this Committee are defined in Annex B.

Article 3

In order to ensure optimum efficiency in the execution of this concerted action project, a project leader shall be appointed by the Commission in agreement with the participating non-Member States.

Article 4

The maximum financial contribution by the Contracting Parties to the coordination costs shall be:

- 140 000 European units of account from the Community for a three-year period beginning on 19 October 1977;
- 10 000 European units of account from each participating non-Member State for the period referred to in the first paragraph of Article 1.

The European unit of account is that defined by the Financial Regulation in force applicable to the general budget of the European Communities and by the financial arrangements adopted pursuant thereto.

The rules governing the financing of the Agreement are set out in Annex C.

Article 5

1. Through the Committee, the States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action project. They shall also endeavour to provide information on similar research planned or carried out by other bodies. This information shall be treated as confidential if the State which provides it so requests.
2. In agreement with the Committee the Commission shall prepare yearly progress reports on the basis of the information supplied and shall forward them to the States.
3. At the end of the concertation period, the Commission shall, in agreement with the Committee, forward to the States a general report on the execution and results of the

project. This report shall be published by the Commission six months after it has been forwarded, unless a State objects. In that case the report shall be confidential and shall be forwarded, on request, solely to the institutions and undertakings whose research or production activities justify access to knowledge resulting from the performance of the research covered by the concerted action project.

Article 6

1. Each of the Contracting Parties shall, after signing this Agreement, notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures necessary under its internal provisions for the implementation of this Agreement.
2. For the Contracting Parties which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the month following that in which the Community and at least one of the participating non-Member States transmitted these notifications.

For those Contracting Parties which transmit the notification after the entry into force of this Agreement, it shall come into force on the date of receipt of the notification.

Contracting Parties which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months following the entry into force of this Agreement.

3. For a period of six months following its entry into force, the Agreement shall be open for accession by the other European States which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971. The instruments of accession shall be deposited with the Secretary-General of the Council of the European Communities. The State which accedes to this Agreement shall become a Contracting Party within the meaning of Article 1 on the date of deposit of the instrument of accession.
4. The Secretary-General of the Council of the European Communities shall notify each of the Contracting Parties of the deposit of the notifications provided for in paragraph 1, of the date of entry into force of this Agreement and of the deposit of the instruments of accession provided for in paragraph 3.

Article 7

This Agreement, drawn up in a single original in the Danish, Dutch, English, French, German and

Italian languages, each text being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities which shall transmit a certified copy to each of the Contracting Parties.

Udfærdiget i Bruxelles, den seksogtyvende juli nitten hundrede og nioghalvfjerds.

Geschehen zu Brüssel am sechszwanzigsten Juli neunzehnhundertneunundsiebzig.

Done at Brussels on the twenty-sixth day of July in the year one thousand nine hundred and seventy-nine.

Fait à Bruxelles, le vingt-six juillet mil neuf cent soixante-dix-neuf.

Fatto a Bruxelles, addì ventisei luglio millenovecentosettantanove.

Gedaan te Brussel, de zesentwintigste juli negentienhonderd negenenzeventig.

ANNEX A

Programmes covered by the Agreement

Research topics	Division of research among Contracting Parties					
	EEC	Switzerland	Austria	Sweden	Norway	Finland
1. Sludge stabilization and odour problems:						
— Definition and determination of 'degree of stability' and relation to odour nuisance	X	X		X	X	
— Comparative evaluation of stabilization procedures	X	X	X	X	X	X
2. Problems related to sludge de-watering:						
— Research on water binding forces	X	X		X	X	
— Development and standardization of methods for the assessment of de-watering properties	X	X		X	X	
— Problems related to the use of flocculants	X	X		X		X
— Comparative evaluation of thickening and de-watering equipment	X	X		X	X	X
3. Analytical problems related to sludge treatment and use:						
— Characterization of pathogens and evaluation of disinfection procedures	X	X			X	X
— Characterization and determination of pollutants (heavy metals, persistent organic compounds) in sludge and development of standardized analytical method	X	X	X	X	X	
4. Environmental problems related to sludge use:						
— Special processing of sludge for agricultural use (e.g. composting) including the improvement of disinfection procedures and pollutant removal	X	X	X		X	X
— Transfer of pollutants to plants and harmful effect on vegetation	X	X		X	X	X
— Effects of long range sludge application on soil quality and ground water	X			X	X	X
— Optimum land use of sludge, including sludge from dephosphatation plants	X	X	X	X		X

ANNEX B

Terms of reference and composition of the Community-COST Concertation Committee on treatment and use of sewage sludge

1. The Committee shall:
 - 1.1 contribute to the optimum execution of the concerted action project by giving its opinion on all of its aspects;
 - 1.2 evaluate the results of the project and draw conclusions as to their application;
 - 1.3 be responsible for the exchange of information referred to in Article 5(1) of the Agreement;
 - 1.4 suggest guidelines to the project leader.
2. The Committee's reports and opinions shall be forwarded to the States.
3. The Committee shall be composed of one delegate from the Commission, as coordinator of the Community concerted action project, one delegate from each participating non-Member State, one delegate from each Member State representing its national programme, and the project leader. Each delegate may be accompanied by experts.

ANNEX C

Financing rules

I. These provisions lay down the financial rules referred to in Article 4 of the Agreement on a concerted action project in the field of treatment and use of sewage sludge (COST Project 68 bis).

II. At the beginning of each financial year, a call for funds shall be issued by the Commission to each of the participating non-Member States. Such calls for funds shall express the contribution of the non-Member State in question both in European units of account and in the currency of the participating non-Member State, the value of the European unit of account being defined in the Financial Regulation applicable to the general budget of the European Communities and determined on the date of the call for funds.

Each participating non-Member State shall pay its contribution to the Agreement at the beginning of each year and by 31 March at the latest. This contribution shall amount to a total of 10 000 European units of account, i.e. 5 000 European units of account annually. On any sum unpaid by that date, interest shall be charged at the rate of 6% per annum. However, such interest shall be chargeable only if payment is effected more than three months after the issue of a call for funds by the Commission.

III. The funds accruing from the contributions of participating non-Member States shall be credited to this concerted action project by being entered in the statement of revenue of the budget of the Commission as receipts within the meaning of the second subparagraph of Article 90(4) of the Financial Regulation of 21 December 1977 applicable to the general budget of the European Communities.

IV. The provisional timetable for the coordination costs referred to in Article 4 of the Agreement is set out in the Annex.

V. The Financial Regulation in force applicable to the general budget of the European Communities shall apply to the management of the appropriations; furthermore, the Commission shall ensure that such appropriations are managed in conformity with the rules of procedure for the implementation of the budget.

VI. At the end of each financial year, a statement of appropriations for this project shall be prepared and transmitted to the participating non-Member States for information.

PROVISIONAL TIMETABLE FOR THE COORDINATION COSTS OF THE CONCERTED ACTION PROJECT (IN EUA)

1. Administrative operating expenditure
(3-year estimates)

1978	1979	1980	Total	of which
40 000	75 000	75 000	190 000	— 140 000 borne by the Community — 50 000 borne by the participating non-Member States

2. Estimated breakdown of expenditure for 1979. Financing to be charged to appropriations under Item 3371, 'Implementation of concerted action projects', Chapter 33 of the Commission budget

Nature of expenditure

Secretarial staff	20 000
Contracts for experts	15 000
Administrative operating expenditure (costs of formal and other meetings, symposia, publications, etc.)	40 000
Total:	75 000

**Community-COST Concertation Agreement on a concerted action project in the field of
treatment and use of sewage sludge
(COST 68 bis)¹**

Decision of Community programmes: 19.3.1979

Date of entry into force: 1.8.1979

Duration: until 18.10.1980

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
EC	26.7.1979	1. 8.1979
Norway	26.7.1979	3. 4.1980
Austria	26.7.1979	8. 1.1981
Switzerland	26.7.1979	1. 8.1979
Finland	26.7.1979	16.11.1979
Sweden	26.7.1979	1. 8.1979

¹ OJ L 72, 23.3.1979, p. 36.

Memorandum of Understanding
for the implementation of a European research
project on methods for planning and optimization of
telecommunications networks

(COST Project 201)

Memorandum of Understanding for the implementation of a European research project on methods for planning and optimization of telecommunications networks

(COST Project 201)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project in the field of planning and optimization of telecommunications networks, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a research project on methods for planning and optimization of telecommunications networks (hereinafter referred to as 'the project').

2. The principal objective of the project is to define optimization methods for a network comprising analogue and digital elements, taking into account grade of service and reliability aspects, in order to produce an optimized target-network and the best policies to reach it.

This objective is more fully described in Annex II.

3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description given in Annex II, adhering as far as possible to a timetable to be decided by the Committee referred to in Annex I (hereinafter referred to as 'the Management Committee').

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

The overall value of the activities of the Signatories under the project is estimated at approximately 1.3 million European units of account at 1979 prices.

The Signatories will make every effort to ensure that the necessary resources are made available under their internal financing procedures. Such resources will include those re-

quired to ensure effective functioning of the Management Committee.

Section 2

Signatories intend to take part in the project in one or several of the following ways and in so doing to devote to the project a resource of at least one man year per year:

(a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');

(b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');

(c) by contributing to the provision of secretariat and/or other services or activities of a coordinatory character necessary for the aims of the project to be achieved;

(d) by participating in research work that will be carried out by the task force referred to in Annex I, assembled in one of the public research establishments (hereinafter referred to as 'the host establishment') for periods of various length, as determined by the Management Committee and using the resource mentioned above.

The host establishment will provide remote terminal access for task force members to its computer if so required by a Signatory, or a third party nominated thereby.

The host establishment will be the Centre National d'Études de Télécommunications, Issy-les-Moulineaux, for the whole project. If at any time unforeseen difficulties arise which prevent this centre from continuing to function as host establishment, the Management Committee will review the situation.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Management Committee will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22

and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign this Memorandum of Understanding will be considered by the Management Committee which may attach special conditions thereto.
3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf both in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the dates of the signatures to this Memorandum of Understanding, and of the date of its entry into effect, and will forward to them all notices which he has received under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fjortende december nitten hundrede og nioghalvfjerds.

Geschehen zu Brüssel am vierzehnten Dezember neunzehnhundertneunundsiebzig.

Done at Brussels on the fourteenth day of December in the year one thousand nine hundred and seventy-nine.

Fait à Bruxelles, le quatorze décembre mil neuf cent soixante-dix-neuf.

Fatto a Bruxelles, addì' quattordici dicembre millenovecentosettantanove.

Gedaan te Brussel, de veertiende december negentienhonderd negenenzeventig.

ANNEX I

Coordination of the project

I

1. A Management Committee will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971, and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1) of the Memorandum of Understanding, participate in the work of the Management Committee before becoming Signatories to the Memorandum of Understanding without, however, having the right to vote.

2. The Management Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

- (a) drawing up detailed plans for the different phases of execution of the project;
- (b) the choice of research topics, on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework given in Annex II shall be referred for advice to the COST Technical Committee 'Telecommunications';
- (c) advising on the direction that work should take;
- (d) coordinating the contributions referred to in subparagraph (c) of Section 2 of the Memorandum of Understanding;
- (e) keeping abreast of the research being done in the territory of the Signatories and in other countries;
- (f) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies, and research contractors in respect of industrial property rights and commercially confidential material;
- (g) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate;
- (h) dealing with any problems that may arise out of the execution of the project, including those relating to possible special conditions to be attached to accession to the Memorandum of Understanding in the case of applications submitted more than six months after the date of the first signature.

3. The Chairman and Vice-Chairman of the Management Committee will be elected from members of this Committee except those representing the Signatory State in whose territory the host establishment is located.
4. The Secretariat of the Management Committee will be provided at the invitation of the Signatories either by the Commission of the European Communities or by a body nominated by the Government of Sweden.

II

1. To contribute to the implementation of the project, a task force of researchers will be created for the duration of the project, consisting of one person from each parti-

participant. They will be chosen by the participants for their competence in the field of telecommunications networks optimization and will be well informed about procedures existing in their own Administrations.

2. In the event of unforeseen difficulties, the actual number of persons from each participant working in the task force will be subject to agreement within the Management Committee.
3. Members of the task force will normally work in their own establishments under the overall direction of the Management Committee. However, the task force may be assembled from time to time at the host establishment. Decisions on this as on other questions relating to the organization of the task force will be taken by the Management Committee.

III

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Management Committee.
2. Signatories will require public research establishments or research contractors, before the Management Committee takes any decision on a proposal, to submit to the public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

IV

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Management Committee. The final reports on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

V

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

— work in respect of this project; or

— the applicant Signatory's projects relating to telecommunications; or

- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

In this context research results and technical know-how are taken as including any computer software arising out of the testing of algorithms on the model network referred to in Annex II, but shall not include software documentation and support services in this respect and computer access beyond that specified in Point I, paragraph (e).

Such licences will be granted free of payment and otherwise on fair and reasonable terms having regard to commercial usage.

2. Signatories will ensure that clauses requiring the granting of the licences referred to in paragraph 1 will be inserted in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. Signatories will make every effort, in particular by ensuring that clauses are included in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Point III 2, and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension, the Signatory will, before the contract is concluded, give the Management Committee the opportunity to state its position. In that event, the Management Committee will, in consultation with the research contractor, discuss ways and means to reach agreement.
4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this Point will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Management Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project

1. Objectives of the project

The main objective of the project is introduced in section 1 paragraph 2 of the Memorandum of Understanding. More precisely, the Signatories' intention is to build up, if it is possible, a procedure for optimizing a telephone network embodying in the general case, both analogue and digital elements, from the following point of view:

- network cost minimization for a given demand with reliability and quality of service constraints;
- optimization of the traffic carried by a given target-network as it may result from abnormal demand and fault conditions, with reliability and cost as constraints.

This computing procedure will be given out to Signatories as flowcharts and algorithms conveying no reference to a particular type of computer nor to any programming language. These algorithms will be as modular as possible, in order to facilitate their utilization. Each participating Administration will thus be able to select individual modules and make use of them in their computerized planning activities.

2. Outline of the project

2.1 *Phase 1: initialization*

This phase will include the following three steps:

2.1.1 Agreement between Signatories on a limited set of parameters describing the network reliability, in order to define the quality of service under abnormal conditions.

2.1.2 Agreement between Signatories upon a model network, the features of which will be accurate enough to allow realistic studies, and general enough in order that the results of the project could be useful for all the Administrations involved.

2.1.3 Mathematical formulation of the problem.

2.2 *Phase 2: research of a solution method, programming and testing*

Most likely, the size and complexity of the problem formulated in paragraph 2.1.3 will prevent researchers finding any exact algorithm. An approximate method, based on heuristics and simplification and reduction of the problem, will then be researched.

The procedure found during this phase will be programmed and tested on a computer of the host establishment.

The control parameters of this procedure will have to be optimized, in order to ensure its efficiency and rapid convergence. The results of these tests may lead to modifications of the principles on which the procedure is based. It is thought that several iterations of algorithm revision and network model testing will be required before the optimized procedure is obtained.

2.3 *Phase 3: evaluation and documentation*

In spite of the close evaluation of the project by the Management Committee during Phases 1 and 2, there is a need finally to evaluate the completed procedure, and thus indicate to participating Administrations the likely usage and limitations of what has

been achieved. The usage, limitations and a description of the procedure itself will be fully documented during this phase.

2.4 Project limits

Before each Administration can put into operation the completed optimization procedure, there are a number of tasks which, because of particular national requirements, cannot be included in the project. These tasks include the definition of operational practice, programming of the method in the computer language that will be most convenient for each Administration, and creation of input and output modules. Such tasks raise neither scientific nor technical problems and, besides, must be designed by each Administration according to its own needs and management procedures.

It may well be possible to take account of services other than telephony, but probably only in a simplified way: attempting to determine the manner in which an integrated services network could be optimized would complicate the problem to an unreasonable degree and will not form part of the project.

**Memorandum of Understanding for the implementation of a European research project
on methods for planning and optimization of telecommunications networks
(COST 201)¹**

Date of entry into force: 14.12.1979

Duration: 13.12.1982

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	14.12.1979	14.12.1979
Germany (Fed. Rep. of)	27. 3.1980	27. 3.1980
France	14.12.1979	14.12.1979
Ireland	30. 4.1980	30. 4.1980
Italy	15. 1.1980	15. 1.1980
Netherlands	14.12.1980	14.12.1980
United Kingdom	14.12.1980	14.12.1980
Portugal	15.12.1980	15.12.1980
Finland	22. 5.1980	22. 5.1980
Sweden	14.12.1979	14.12.1979
Turkey	17. 4.1980	17. 4.1980

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European research
project on digital local telecommunication networks**

(COST Project 202)

Memorandum of Understanding for the implementation of a European research project on digital local telecommunication networks

(COST Project 202)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on digital local telecommunication networks, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of digital local telecommunication networks, (hereinafter referred to as 'the project').
2. The main objective of the project is to coordinate and advance European research into digital techniques and technologies for applications in future local network environments, and in particular to undertake research into local line transmission and signalling techniques that will permit the eventual economic and flexible provision of a comprehensive range of customer services and facilities.
3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description given in Annex II, adhering as far as possible to a timetable to be decided by the Committee referred to in Annex I.

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

The overall value of the activities of the Signatories under the project is estimated at approximately one and a half million European units of account at 1978 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project by carrying out an accelerated exchange of information and:

- (a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments'); or
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors'); or
- (c) by evaluating the various methods and approaches used in these research activities and by making recommendations and allocating new tasks to the various laboratories on the basis of these evaluations; or
- (d) by arranging for frequent inter-laboratory visits and cooperating in an exchange of staff; or
- (e) by providing services; or
- (f) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.

3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.
2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign this Memorandum of Understanding will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.
3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf both in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though they may not have signed this Memorandum of Understanding.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the dates of the signatures to this Memorandum of Understanding, and of the date of its entry into effect and will forward to them all notices which he has received under the Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fjortende december nitten hundrede og nioghalvfjerds.

Geschehen zu Brüssel am vierzehnten Dezember neunzehnhundertneunundsiebzig.

Done at Brussels on the fourteenth day of December in the year one thousand nine hundred and seventy-nine.

Fait à Bruxelles, le quatorze décembre mil neuf cent soixante-dix-neuf.

Fatto a Bruxelles, addì' quattordici dicembre millenovecentosettantanove.

Gedaan te Brussel, de veertiende december negentienhonderd negenenzeventig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1) of the Memorandum of Understanding, participate in the work of the Committee before becoming Signatories to the Memorandum of Understanding without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:
 - (a) drawing up detailed plans for the different phases of execution of the project;
 - (b) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework given in Annex II shall be referred for advice to the COST Technical Committee on Telecommunications;
 - (c) advising on the direction that work should take;
 - (d) keeping abreast of the research being done in the territory of the Signatories and in other countries;
 - (e) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies and research contractors in respect of industrial property rights and commercially confidential material;
 - (f) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate;
 - (g) dealing with any problems that may arise out of the execution of the project, including those relating to possible special conditions to be attached to accession to the Memorandum of Understanding in the case of applications submitted more than six months after the date of the first signature.
3. The Secretariat of the Committee will be provided, at the invitation of the Signatories, either by the Commission of the European Communities or by a body nominated by the Government of the Netherlands.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Committee.
2. Signatories will require their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public authorities or bodies referred to in paragraph 1 notification of previous commit-

ments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

— work in respect of the project; or

— the applicant Signatory's projects relating to telecommunications;

— any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will ensure that clauses requiring the granting of the licences referred to in paragraph 1 will be inserted in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. Signatories will make every effort, in particular by ensuring that clauses are included in contracts placed with research contractors, to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Point II(2), and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position. In that event, the Committee will, in consultation with the research contractor, discuss ways and means to reach agreement.

4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this Point will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected invention and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

General description of the project

1. Introduction

The improvement of existing customer services and the provision of a comprehensive range of new services have important implications in local telecommunication networks. Present services, with a few exceptions, are limited in the main by the constraints imposed by current analogue space division switching and analogue local line networks, notably band width and signalling limitations. Demand for new and improved services requiring higher band width and better performance is expected to increase in the future and hence there will be a requirement for the improvement of local networks to enable these demands to be accommodated. Thus in many countries in Europe PTTs are beginning to study strategies for the evolution of their local networks. The tremendous advances made recently in integrated circuits and the downward trend in component costs coupled with their inherent transmission advantages make digital techniques and technologies an increasingly attractive potential solution. It would be advantageous to Europe as a whole and to the participating countries if a coordinated programme is implemented to investigate how digital techniques can contribute to the development of local networks.

2. Scope of the project

2.1 Cost Project 202 is a European collaborative research project concerned with the digital techniques and exploitations which in the long-term perspective (e.g. up to 30 years) may be used in local networks to provide a comprehensive range of customer services and facilities.

2.2 The study of local networks is a vast subject encompassing a number of highly interactive topic areas e.g. switching, signalling, transmission, customer terminals and network architecture. The Technical Committee on Telecommunications, having examined the possibilities for collaborative research in these areas and taken account of the responsibilities of the various CEPT study groups working in the field (CCH/GSH, ELT/DNS, CS, CD, TR and SF) consider that there is scope for collaboration in a study primarily concerned with transmission and signalling in a future local network environment. However the need is stressed for sufficient flexibility to enable the Management Committee to consider the study of any interrelated aspect of local networks that has a direct effect on this central theme.

2.3 Customer services can be broadly classified into two main categories according to their transmission capacity requirements:

- narrow band services (say up to 100 Kbits/sec);
- medium and wide band services (say, greater than 100 Kbits/sec).

Demand for narrow band and some medium band services might be satisfied by the exploitation of existing networks whilst wide band services (e.g. the transmission of moving pictures) must rely on the implementation of new local line plant (e.g. optical fibres). Thus an assessment of services for which there is potential demand is a prerequisite upon which the technological assessment of network capabilities, techniques and devices necessary for their realization must be based. However, since this project will be concerned with the technological facets it is expected that the project will be able to draw on the information about demands and needs for new services that is already available.

2.4 Work carried out within the framework of the project must be strictly research orientated and must not overlap the activities of CEPT. However, in the longer term, the results of the project are expected to provide a useful input in support of Signatories' individual contributions to CEPT and any other organization concerned with standardization and harmonization.

3. Objectives of the project

The objectives of the project are to carry out research into digital techniques and technologies for applications in future local network environments; in particular to undertake research into local line transmission and signalling techniques that will:

3.1 Permit the eventual economic and flexible provision of a comprehensive range of customer services and facilities;

3.2 Be appropriate to future local switching and customer terminal equipment technologies;

3.3 Take account of future network architectures and the principles to be adopted for evolution;

3.4 Exploit highly advanced low-cost technology.

4. Project organization

In order to facilitate the organization of the task it is suggested that the project be divided into the following aspects:

- local network evolution study;
- local network signalling research;
- local line transmission research.

These are not consecutive since a high degree of interaction would be required.

4.1 Local network evolution study

Examine the principles to be adopted for the evolution of existing local networks insofar as they may affect future local line transmission and signalling techniques, e.g. the impact of distributed concentrators and switching nodes.

4.2 Local network signalling research

Identify and undertake the necessary research in order to permit development of an appropriate range of signalling facilities to meet future requirements for system organization and control. Take into account future principles and requirements for line interface equipment for both local switching centres (nodes) and customer terminals.

4.3 Local line transmission research

Identify and undertake research in order to exploit existing and new media to meet future transmission requirements. It is envisaged that such research would include the following topics:

4.3.1 The potential for exploitation of existing line plant and the minimization of problems due to cross-talk and interference.

4.3.2 The utilization of appropriate line transmission rates and modes.

4.3.3 The application of more advanced transmission systems.

- 4.3.4 The potential of wide band transmission media, particularly optical fibre communication systems.
 - 4.3.5 The organization of local line topology to minimize problems caused by the requirement to handle a wide variety of services.
 - 4.3.6 Devices for insertion into local lines, e.g. regenerators.
 - 4.3.7 Power feeding requirements and their impact on cable designs.
 - 4.3.8 Line coding.
 - 4.3.9 Local switching and customer terminal equipment interfaces; requirements and principles.
 - 4.3.10 Traffic considerations.
 - 4.3.11 Reliability factors.
 - 4.3.12 Synchronization problems.
 - 4.3.13 Comparative system economics.
5. The determination of further technical details of the programme of work and of the time-scales to be applied will be the responsibility of the Signatories acting through the Management Committee. However, it is recommended that the most immediate priority should be given to the exploitation of existing pair cable networks.

**Memorandum of Understanding for the implementation of a European research project
on digital local telecommunications networks
(COST 202)¹**

Date of entry into force: 14.12.1979

Duration: 13.12.1982

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	14.12.1979	14.12.1979
Denmark	14.12.1979	14.12.1979
Germany (Fed. Rep. of)	14.12.1979	14.12.1979
France	14.12.1979	14.12.1979
Italy	15. 1.1980	15. 1.1980
Netherlands	14.12.1979	14.12.1979
United Kingdom	14.12.1979	14.12.1979
Yugoslavia	16.10.1981	16.10.1981
Switzerland	14.12.1979	14.12.1979
Finland	14.12.1979	14.12.1979
Sweden	14.12.1979	14.12.1979
Turkey	17. 4.1980	17. 4.1980

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European
research project on measurement of precipitation by radar**

(COST Project 72)

Memorandum of Understanding for the implementation of a European research project on measurement of precipitation by radar

(COST Project 72)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on measurement of precipitation by radar, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of measurement of precipitation by radar (hereinafter referred to as 'the project').
2. The main objective of the project is to coordinate and advance European research on measurement of precipitation by radar with a view to achieving data harmonization and interchangeability, as a useful contribution to the efforts which are being or will be made by States participating in European Cooperation in the field of Scientific and Technical Research (COST) in building up a meteorological radar network.
3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description given in Annex II.

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

The overall value of the investments already undertaken by Signatories, the optimal utilization of which is one of the fundamental objectives of the project, is estimated at many tens of millions of European units of account at 1979 prices.

The Signatories will make every effort to ensure that the necessary resources are made available under their internal financing procedures. Such resources will include those required to ensure effective functioning of the Committee referred to in Annex I (hereinafter referred to as 'the Coordination Committee').

Section 2

Signatories intend to take part in the project by carrying out an accelerated exchange of information and

- (a) by carrying out studies and research in public research establishments (hereinafter referred to as 'public research establishments'); or
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors'); or
- (c) by making information on existing relevant research, including all necessary basic data, available to other Signatories; or
- (d) by providing services; or
- (e) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect for five years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.

4. If at any time the number of Signatories falls below four, the Coordination Committee will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European

Economic Community to sign this Memorandum of Understanding will be considered by the Coordination Committee which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf both in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the dates of the signatures to this Memorandum of Understanding, and of the date of its entry into effect, and will forward to them all notices which he has received under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fjortende december nitten hundrede og nioghalvfjerds.

Geschehen zu Brüssel am vierzehnten Dezember neunzehnhundertneunundsiebzig.

Done at Brussels on the fourteenth day of December in the year one thousand nine hundred and seventy-nine.

Fait à Bruxelles, le quatorze décembre mil neuf cent soixante-dix-neuf.

Fatto a Bruxelles, addì quattordici dicembre millenovecentosettantanove.

Gedaan te Brussel, de veertiende december negentienhonderd negenenzeventig.

ANNEX I

Coordination of the project

I

1. A Coordination Committee will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1) of the Memorandum of Understanding, participate in the work of the Coordination Committee before becoming Signatories to the Memorandum of Understanding without, however, having the right to vote.

2. The Coordination Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

(a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework given in Annex II shall be referred for advice to the COST Technical Committee 'Meteorology';

(b) advising on the direction that work should take, including priorities and timing;

(c) drawing up detailed plans and defining methods for the different phases of execution of the project;

(d) the designation of research centres or institutions as leading centres for specific sectors of the project;

(e) keeping abreast of the research being done in the territory of the Signatories and in other countries;

(f) liaising with appropriate international bodies;

(g) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies, and research contractors in respect of industrial property rights and commercially confidential material;

(h) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as deemed necessary;

(i) dealing with any problems that may arise out of the execution of the project, including those relating to possible special conditions to be attached to accession to the Memorandum of Understanding in the case of applications submitted more than six months after the date of the first signature.

3. The Secretariat of the Coordination Committee will be provided, at the invitation of the Signatories, either by the Commission of the European Communities or by one of the Signatory States.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Coordination Committee.
2. Signatories will require public research establishments or research contractors, before the Coordination Committee takes any decision on a proposal, to submit to the public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Coordination Committee. The final reports on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of the project; or
- the applicant Signatory's projects relating to measurement of precipitation by radar; or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will ensure that clauses requiring the granting of the licence referred to in paragraph 1 will be inserted in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. Signatories will make every effort, in particular by ensuring that clauses are included in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Point II(2), and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise

be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Coordination Committee the opportunity to state its position. In that event, the Coordination Committee will, in consultation with the research contractor, discuss ways and means to reach agreement.

4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this Point will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Coordination Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project

1. Introduction

Radar equipment for the quantitative determination of precipitation is operated in European countries by meteorological services as well as some other institutions. Efforts are under way in a number of these countries to build up radar networks from both existing and planned weather radar equipment.

Such networks are intended to collate radar data on precipitation distribution which have already been processed locally and to make them available to all users. Interested users, apart from meteorological services themselves, include in particular aviation, hydrological services and water authorities as well as farming and the building trade. Interest is not confined to quantitative recording and display of area precipitation, but extends to dangerous forms of precipitation, flood risks, etc., so that warnings can be given and precautions taken to prevent damage.

2. Project objectives

The objectives may be summarized as follows:

2.1 To study the technical and financial aspects of a coordinated approach to a European weather radar network.

2.2 To improve the quality of radar data and the correlation between radar data and meteorological phenomena, primarily in the form of precipitation levels and totals, for short-period forecasting and other purposes, for potential users such as meteorologists, hydrologists, aviation, construction industry and agriculture, taking into account especially the giving of warnings aimed at saving life and property.

2.3 To optimize the cost-benefit ratios of national networks, bilateral networks and, ultimately, European networks.

2.4 To study the possibility of standardization of radar-observing systems with the aim of facilitating the economic production of equipment on a European basis.

2.5 To examine the possibilities of combining weather radar data with cloud data from meteorological satellites.

3. Programme

The signatories intend, on the basis of the present state of development of radar networks in their countries, to have investigation and research work carried out by public institutions or, if such work has already been done, to make the results available, including all necessary basic data.

The topics covered by the programme are to include the following:

3.1 *Radar observing systems*

- siting problems;
- optimum design parameters;
- availability and indication of all relevant radar characteristics;
- performance monitoring, stability and reliability;

- local display requirements;
- possibilities of the rationalization of the production of the equipment.

3.2 *Data processing, at radar sites and receiving stations*

- standardization of data formats and protocols;
- inclusion of calibration and correction data;
- conversion and integration for sub-catchments and flood areas;
- combination of satellite data and radar data;
- compositing of data from several radars to form one picture/display.

3.3 *Accuracy of data*

- basic questions, for example relationships between precipitation as measured by radar and that reaching the ground;
- methods of calibration of the radar data and use of Z-R relationships;
- elimination of permanent echoes, interpolation in areas of occultation;
- correction for bright band effects;
- measurement of snow, hail and sleet;
- identification of dangerous meteorological phenomena.

3.4 *Data transmission*

- optimization of interfaces in accordance with progress in communications technology;
- testing and use of transmission media, both narrow-band lines and microwave links;
- establishment of data-integrity requirements;
- data display at distant stations and local storage.

3.5 *Networks*

- operational data requirements of users;
- determination of comparability of data from different radars and from other sources;
- trials with selected problems in pilot networks;
- computer-compatible data banks;
- optimization of radar networks;
- technical and overall financial aspects of multinational networks.

**Memorandum of Understanding for the implementation of a European research project
on measurement of precipitation by radar
(COST 72)¹**

Date of entry into force: 14.12.1979

Duration: 13.12.1984

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Denmark	13. 6.1980	13. 6.1980
Germany (Fed. Rep. of)	11.12.1980	11.12.1980
France	14.12.1979	14.12.1979
Netherlands	14.12.1979	14.12.1979
United Kingdom	14.12.1979	14.12.1979
Portugal	19.11.1981	19.11.1981
Switzerland	13. 6.1980	13. 6.1980
Finland	14.12.1979	14.12.1979
Sweden	13. 6.1980	13. 6.1980

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European research project
on mariculture**

(COST Project 46)

Memorandum of Understanding for the implementation of a European research project on mariculture

(COST Project 46)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on mariculture, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research into mariculture (hereinafter referred to as 'the project').
2. The main objective of the project is to coordinate and advance European research into mariculture, via coordination of research efforts on certain key areas, taking into account the economic importance of these areas and with a view to stimulating basic work in genetics and in marine fish and shellfish culture as well as to producing a positive impact on related studies in marine aquaculture.
3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description and indicative pattern of potential participation given in Annex II.

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

The overall value of the activities of the Signatories under the project is estimated at approximately nine million European units of account at 1979 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project:

- (a) by carrying out studies and research in public research establishments (hereinafter referred to as 'public research establishments'); or
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors'); or
- (c) by providing services; or
- (d) in several of the above ways.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least four Signatories.¹ Following a review of the results achieved, it may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Management Committees re-

¹ Before this Memorandum of Understanding is made available for signature, arrangements will be made to ensure that there will be sufficient Signatories and/or provisional participants under the second subparagraph of Section 4(1) to enable at least one of the four projects to be implemented with immediate effect.

ferred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any one of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European

Economic Community to sign this Memorandum of Understanding will be considered by the Committees referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf both in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the dates of the signatures to this Memorandum of Understanding and of the date of its entry into effect, and will forward to them all notices which he has received under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fjortende februar nitten hundrede og firs.

Geschehen zu Brüssel am vierzehnten Februar neunzehnhundertundachtzig.

Done at Brussels on the fourteenth day of February in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le quatorze février mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì quattordici febbraio millenovecentoottanta.

Gedaan te Brussel, de veertiende februari negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. Three separate Management Committees, each composed of not more than two representatives for each Signatory, will be set up respectively for projects 1 and 2 jointly, for Project 3, and for Project 4, as defined in Annex II. Each Committee representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1) of the Memorandum of Understanding participate in the work of the Committees before becoming Signatories to the said Memorandum without however having the right to vote.

2. The Management Committees will be responsible for coordinating the projects and in particular for making the necessary arrangements for:
 - (a) the choice of research topics on the basis of those provided for in Annex II, taking into account such changes as may be proposed by the competent public authorities or bodies of the Signatories;
 - (b) advising on the direction that work should take;
 - (c) drawing up detailed plans and defining methods for the different phases of execution of the project;
 - (d) keeping abreast of the research being done in the territory of the Signatories and in other countries;
 - (e) liaising with appropriate international bodies;
 - (f) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies and research contractors in respect of industrial property rights and commercially confidential material;
 - (g) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as deemed necessary;
 - (h) dealing with any problems that may arise out of the execution of the project, including those relating to possible special conditions to be attached to accession to the Memorandum of Understanding in the case of applications submitted more than six months after the date of the first signature.
3. The Secretariat of the Management Committees will be provided, at the invitation of the Signatories, either by the Commission of the European Communities and/or by one or more of the Signatory States.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent

public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Committee.

2. Signatories will require their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

— work in respect of the project; or

— the applicant Signatory's projects in the same field; or

— any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will ensure that clauses requiring the granting of the licences referred to in paragraph 1 will be inserted in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. Signatories will make every effort, in particular by ensuring that clauses are included in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to previous industrial property rights and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will

give the respective Management Committee the opportunity to state its position before the contract is concluded.

4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this point will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the respective Management Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project and indicative pattern of potential participation

I. GENERAL DESCRIPTION OF THE PROJECT

1. *Aims*

To foster the coordination of research activities in the fields of mollusc culture and salmon ranching in order to augment salmon and shellfish stocks and to improve the efficiency of mollusc production.

2. *Programme*

The programme consists of four multiannual concerted action research projects in the field of:

1. nursery rearing of bivalve molluscs;
2. assessment of the nutritive value of algal species to molluscs;
3. identification of genetic and environmental characteristics of commercially important mollusc species;
4. sea ranching of the Atlantic salmon (*Salmo salar* L).

Projects 1, 2 and 3 are intended to improve the coordination of research activities on various interrelated aspects of mollusc culture.

Projects 1 and 2 are concerned with the efficiency of production of the early growth stages of commercially important bivalve species and Project 3 aims to study genetic and environmental effects on commercially important mollusc populations.

Project 4 is concerned with increasing the efficiency of salmon production following the release of large numbers of the smolt and the subsequent cropping of adults returning to their native streams for spawning. Once the smolt have left the river estuaries and have moved into the sea they become an international property resource. Their rational management requires basic biological knowledge on the activities of the fish at this time and the work involved in obtaining this data is best carried out within an international context. Such a research programme would be costly but its efficiency could be improved by a review of current knowledge, specifically in terms of the seasonal and geographical availability of suitable food organisms. It is suggested that such reviews be prepared by each participating State, and that they be presented for discussion and synthesis at a seminar after a period of two years. The synthesis of this review would then provide the basis for the definition of future programmes.

3. *Implementation and timing*

The early stages of the implementation of the programme will require a number of coordination meetings. At a later stage, facilities will be needed for seminars and workshops for the discussion of the results obtained. There will also be a requirement for short exchanges of scientists and for the publication of results.

It is envisaged that the programme will have a duration of three years in the first instance, with the exception of Projects 2 and 4, which will last for two years only. After this period, progress will be reviewed and if there are good grounds for continuing either project, a further prolongation of one or two years will be requested.

II. INDICATIVE PATTERN OF POTENTIAL PARTICIPATION

	B	DK	E	F	I	IRL	N	NL	P	S	SF	YU	UK
1. Nursery rearing of bivalve molluscs	(X)		X	X	X	X		X	X			X	
2. Assessment of the nutritive value of algal species to molluscs	(X)		X	X	X	X		X	X			X	
3. Identification of genetic and environmental characteristics of commercially important mollusc species			X	X	X	X	(X)	X	X		X	X	
4. Sea ranching of the Atlantic salmon (<i>Salmo salar</i> L)		X		X		X	(X)			X			X

Key: B - Belgium; DK - Denmark; E - Spain; F - France; I - Italy; IRL - Ireland; N - Norway; NL - Netherlands; P - Portugal; S - Sweden; SF - Finland; YU - Yugoslavia; UK - United Kingdom.

**Memorandum of Understanding for the implementation of a European
research project on mariculture
(COST 46)¹**

Date of entry into force: 14.2.1980

Duration: 13.2.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	5. 3.1981	5. 3.1981
Denmark	23.11.1981	23.11.1981
France	14. 2.1980	14. 2.1980
Ireland	14. 2.1980	14. 2.1980
Netherlands	14. 2.1980	14. 2.1980
United Kingdom	14. 2.1980	14. 2.1980
Norway	11. 6.1981	11. 6.1981
Portugal	13. 8.1980	13. 8.1980
Finland	14. 2.1980	14. 2.1980
Sweden	14. 2.1980	14. 2.1980

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European research
project on the production and feeding of single cell protein**

(COST Project 83/84)

Memorandum of Understanding for the implementation of a European research project on the production and feeding of single cell protein

(COST Project 83/84)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on the production and feeding of single cell protein (SCP), have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of the production and feeding of single cell protein (hereinafter referred to as 'the project').
2. The main objective of the project is to obtain knowledge on all aspects of SCP production from agriculture and forestry waste in order to provide scientific and technical assistance to farmers, industry and environmental agencies concerned with the efficient recycling of an ever growing amount of byproducts and waste.
3. The Signatories hereby declare their intention to carry out the project jointly, in accordance with the general description and indicative pattern of potential participation given in Annex II.

The project will be carried out through concerted action, in accordance with Annex I.

Section 2

The Signatories intend to take part in the project in one or several of the following ways:

- (a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');
- (c) by contributing to the provision of secretariat and/or other services or activities of a coordinatory character necessary for the aims of the project to be achieved.

In connection with (c), the Signatories will make every effort to ensure the effective functioning of the Committee referred to in Annex I.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least five Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the

Secretary-General of the Council of the European Communities at least three months beforehand.

4. If at any time the number of Signatories falls below five, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred

to in paragraph 1 or from the European Economic Community to sign this Memorandum will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the date of the signatures to this Memorandum of Understanding, and the date of its entry into effect, and will forward to them all notices which he receives under the Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den syvogtyvende marts nitten hundrede og firs.

Geschehen zu Brüssel am siebenundzwanzigsten März neunzehnhundertachtzig.

Done at Brussels on the twenty-seventh day of March in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-sept mars mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventisette marzo millenovecentoottanta.

Gedaan te Brussel, de zevenentwintigste maart negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1), participate in the work of the Committee before becoming Signatories to the Memorandum of Understanding without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

(a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework shall be referred for an opinion to the Committee of Senior Officials for Scientific and Technical Research (COST);

(b) advising on the direction that work should take;

(c) drawing up detailed plans and defining methods for the different phases of execution of the project;

(d) coordinating the contributions referred to in subparagraph (c) of Section 2 of the Memorandum of Understanding;

(e) keeping abreast of the research being done in the territory of the Signatories and in other countries;

(f) liaising with appropriate international bodies;

(g) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies, and research contractors in respect of industrial property rights and commercially confidential material;

(h) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as may be deemed necessary;

(i) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign the Memorandum of Understanding submitted more than six months after the date of the first signature.

3. The Secretariat of the Committee will be provided at the invitation of the Signatories either by the Commission of the European Communities or by a body nominated by the Government of one of the Signatory States.

II

1. The Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Committee.
2. The Signatories will require their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the competent public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. The Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, extending at least to the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, the Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of the project; or
- the applicant Signatory's projects in the same field; or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. The Signatories will accordingly ensure that clauses requiring the granting of the licences referred to in paragraph 1 are included in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. The Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to previous industrial property rights and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research

contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position. In that event the Committee will, in consultation with the research contractor, discuss ways and means of reaching agreement.

4. The Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project and indicative pattern of potential participation

I. GENERAL DESCRIPTION OF THE PROJECT

The research work from which the research topics will be selected is as follows:

1. Single cell protein (SCP) production from whey

The research sub-topics aimed at clarifying the different aspects of SCP production from whey and whey products, are the following:

(a) Selection of micro-organisms

- Selection of micro-organisms for growth on lactose medium;
- Selection of micro-organisms for initial breakdown of lactose;
- Selection of micro-organisms for growth on lactose derived products, e.g. lactate and carbohydrates.

(b) Selection of fermentation systems

- Design and/or adaptation of pilot scale and industrial fermentors to handle liquid and/or concentrated whey products. Emphasis to be placed on systems with prospects for viability at a relatively small scale of operation;
- Substrate modification by chemical or enzymic methods;
- Substrate supplementation, e.g. carbohydrates and other nutrients;
- Conditions of fermentation;
- Recovery and treatment of biomass;
- Fermentation waste.

(c) Nutritional and toxicological properties

- Composition: protein and amino acids, nucleic acids, cell wall components, minerals, vitamins and contaminants;
- Nutritive value;
- Toxicological aspects: short and long-term studies.

(d) Relative economics

- Cost analysis;
- Comparison with alternative methods for processing whey;
- Prospects of SCP in comparison with other available protein sources;
- Energy balance of the process.

2. SCP production from cellulose

(a) Substrate preparation

- Pre-treatment of the substrate (physical, chemical and microbial methods);
- Hydrolysis of substrate (chemical, enzymatic and microbial);
- Waste water: recovery and recycling of chemicals and enzymes.

(b) Selection and improvement of micro-organisms

- Selection of micro-organisms for pre-treatment of substrate;
- Selection of micro-organisms for the saccharification of the substrate;
- Selection of micro-organisms for SCP-production.

(c) Selection of fermentation systems

- Scale-up studies: optimization for cheap equipment, process control;
- Substrate supplementation: optimization of nutrients for microbial growth or enzyme production;
- Conditions of fermentation: optimization of process parameters, evaluation of relevant process parameters for maximum protein yield, high productivity on enzymes, etc., process layout (batch or continuous);
- Preparation of feed: concentration of product (filtration, centrifugation, flocculation), preservation of product (drying, autolysis), upgrading through supplementation;
- Fermentation waste treatment: upgrading of waste water recovery.

(d) Nutritional and toxicological aspects

- Composition: protein and amino acids, nucleic acids, cell wall components, minerals, vitamins, contaminants, development of routine tests;
- Nutritive value: animal feeding tests, acceptability;
- Toxicological aspects.

(e) Economics

- Cost analysis, cost structure;
- Comparison with alternative methods for processing by-products e.g. sulphite liquor;
- Prospects of SCP in comparison with other available protein sources;
- Energy balance of the process.

3. Nutritional and toxicological evaluation of SCP

In this sub-project, nutritional and toxicological aspects of SCP produced will be studied in relation to:

- (a) the specificity of micro-organisms;
- (b) the conditions of fermentation (including pre-treatments and composition of media) and type of substrate;
- (c) the processing of the resulting product.

In order of priority, attention will be given to the following:

- (a) Test to ensure the harmlessness of the micro-organisms for exposed people during production and handling of the material and for animals which are fed with the product;
- (b) Chemical composition;
- (c) Short-term tests for nutritional quality determinations *in vitro* and *in vivo*, e.g. in rats, piglets and chickens (e.g. digestibility, biological value and protein efficiency ratio (PER));
- (d) Tests on target animals of different species and age, with various concentrations of SCP in balanced practical diets (including determination of nutritive value such as metabolizable energy (ME) and amino acids digestible protein and supplementary value) to allow economic evaluations;
- (e) Detailed chemical, microbiological and physical characterization of the products and definition of product specification;
- (f) Animal product quality determinations and toxicological evaluation of residues in the animal product.

II. INDICATIVE PATTERN OF POTENTIAL PARTICIPATION

Research topics	A	B	DK	SF	F	D	UK	GR	IRL	I	L	NL	N	P	E	S	CH	TR	YU
1. Single cell protein (SCP) production from whey	X	X			X	X			(X)			X				X	X		
2. SCP production from cellulose				X	X	X	X		(X)	X		X			X	X		X	X
3. Nutritional and toxicological evaluation of SCP		X		X	X	X	X					X	X			X	X		X

(X) = Not confirmed.

**Memorandum of Understanding for the implementation of a European research project
on the production and feeding of single cell protein
(COST 83/84)¹**

Date of entry into force: 27.3.1980

Duration: 26.3.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	31.7.1980	31.7.1980
Denmark	27.3.1980	27.3.1980
Germany (Fed. Rep. of)	27.3.1980	27.3.1980
France	27.3.1980	27.3.1980
Ireland	25.9.1980	25.9.1980
Netherlands	27.3.1980	27.3.1980
Spain	25.9.1980	25.9.1980
Yugoslavia	11.9.1981	11.9.1981
Switzerland	30.6.1980	30.6.1980
Sweden	27.3.1980	27.3.1980
Turkey	25.9.1980	25.9.1980

¹ Not published in the Official Journal.

**Community-COST Concertation Agreement
on a concerted action project in the field
of physico-chemical behaviour
of atmospheric pollutants**

(COST Project 61a bis)

Community-COST Concertation Agreement on a concerted action project in the field of physico-chemical behaviour of atmospheric pollutants

(COST Project 61a bis)

The European Economic Community, hereinafter referred to as 'the Community',

Austria and Sweden, hereinafter referred to as the 'participating non-member States',

Whereas a research project on the physico-chemical behaviour of atmospheric pollutants, carried out pursuant to an Agreement concluded on 23 November 1971 in the framework of European Cooperation in the field of Scientific and Technical Research (COST project 61a), produced very encouraging results;

Whereas a European concerted research project in the above-mentioned field continuing and extending COST project 61a, is likely to contribute effectively to the reduction of environmental pollution;

Whereas by its Decision of 9 October 1978 the Council of the European Communities adopted a Community concerted action project in the field of physico-chemical behaviour of atmospheric pollutants;

Whereas the Member States of the Community and the participating non-member States, hereinafter referred to as 'the States', intend, subject to the rules and procedures applicable to their national programmes to carry out the research described in Annex A and are prepared to integrate such research into a process of concertation which they consider will be of mutual benefit;

Whereas the implementation of the research covered by the concerted action project will require a financial contribution of approximately 9.5 million European units of account from the States,

HAVE AGREED AS FOLLOWS:

Article 1

The Community and the participating non-member States, hereinafter referred to as 'the Contracting Parties', shall participate for a period extending until 3 November 1982 in a concerted action project in the field of physico-chemical behaviour of atmospheric pollutants.

This project shall consist in concertation between the Community concerted action programme and the corresponding programmes of the participating non-member States. The programmes covered by this Agreement are listed in Annex A.

The States remain entirely responsible for the research executed by their national institutions or bodies.

Article 2

The concertation between the Contracting Parties shall be effected through a Community-COST Concertation Committee, hereinafter referred to as 'the Committee'.

The Committee shall draw up its rules of procedure. Its Secretariat will be provided by the Commission of the European Communities, hereinafter referred to as 'the Commission'.

The terms of reference and the composition of this Committee are defined in Annex B.

Article 3

In order to ensure optimum efficiency in the execution of this concerted action project, a project leader shall be appointed by the Commission in agreement with the participating non-member States.

Article 4

The maximum financial contribution by the Contracting Parties to the coordination costs shall be:

- 500 000 European units of account from the Community for a four-year period beginning on 4 November 1978;
- 220 000 European units of account from each participating non-member State for the period referred to in the first paragraph of Article 1.

The European unit of account is as defined in the Financial Regulation in force applicable to the general budget of the European Communities and by the financing arrangements adopted pursuant thereto.

The rules governing the financing of the Agreement are set out in Annex C.

Article 5

1. Through the Committee, the States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action project. They shall also endeavour to provide information on similar research planned or carried out by other bodies. Any information shall be treated as confidential if the State which provides it so requests.
2. In agreement with the Committee the Commission shall prepare yearly progress reports on the basis of the information supplied and shall forward them to the States.
3. At the end of the concertation period, the Commission shall, in agreement with the Committee, forward to the States a general report on the execution and results of the project. This report shall be published by the Commission six months after it has been forwarded, unless a State objects. In that case the report shall be treated as confidential and shall be forwarded on request and with the agreement of the Committee, solely to the institutions and undertakings whose research

or production activities justify access to knowledge resulting from the performance of the research covered by the concerted action project.

Article 6

1. Each of the Contracting Parties shall, after signing this Agreement, notify the Secretary-General of the Council of the European Communities as soon as possible after completion of the procedures necessary under its internal provisions for the implementation of this Agreement.
2. For the Contracting Parties which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the month following that in which the Community and at least one of the participating non-member States transmitted these notifications.

For those Contracting Parties which transmit the notification after the entry into force of this Agreement, it shall come into force on the first day of the second month following the month in which the notification was transmitted.

Contracting Parties which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months following the entry into force of this Agreement.

3. For a period of six months following its entry into force, this Agreement shall be open for accession by the other European States which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971. The instruments of accession shall be deposited with the Secretary-General of the Council of the European Communities. A State which accedes to this Agreement shall become a Contracting Party within the meaning of Article 1 on the date of deposit of the instrument of accession.
4. The Secretary-General of the Council of the European Communities shall notify each of the Contracting Parties of the deposit of the notifications provided for in paragraph 1, of the date of entry into force of this Agreement and of the deposit of the instruments of accession provided for in paragraph 3.

Article 7

This Agreement, drawn up in a single original in the Danish, Dutch, English, French, German and

Italian languages, each text being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European

Communities which shall transmit a certified copy to each of the Contracting Parties.

Udfærdiget i Bruxelles, den syvogtyvende marts nitten hundrede og firs.

Geschehen zu Brüssel am siebenundzwanzigsten März neunzehnhundertachtzig.

Done at Brussels on the twenty-seventh day of March in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-sept mars mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventisette marzo millenovecentoottanta.

Gedaan te Brussel, de zevenentwintigste maart negentienhonderd tachtig.

ANNEX A

Programmes covered by the Agreement

1. Studies on the conversion and transport of atmospheric pollutants:
 - (a) laboratory studies;
 - (b) field studies;
 - (c) modelling.
2. Studies on the elimination and absorption of atmospheric pollutants.

ANNEX B

Terms of reference and composition of the Community-COST Concertation Committee on physico-chemical behaviour of atmospheric pollutants

1. The Committee shall:
 - 1.1 contribute to the optimum execution of the concerted action project by giving its opinion on all of its aspects;
 - 1.2 evaluate the results of the project and draw conclusions as to their application;
 - 1.3 be responsible for the exchange of information referred to in Article 5(1) of the Agreement;
 - 1.4 suggest guidelines to the project leader.
2. The Committee's reports and opinions shall be forwarded to the States.
3. The Committee shall be composed of two delegates from the Commission, one representing the programme of direct action, the other one as coordinator of the Community concerted action, of one delegate from each participating non-member State, of one delegate from each Member State representing its national programme, and of the project leader. Each delegate may be accompanied by experts.

ANNEX C

Financing rules

I. These provisions lay down the financial rules referred to in Article 4 of the Agreement on a concerted action project in the field of physico-chemical behaviour of atmospheric pollutants (COST Project 61a bis).

II. At the beginning of each financial year, a call for funds shall be issued by the Commission to each of the participating non-member States. Such calls for funds shall express the contribution of the non-member State in question both in European units of account and in the currency of the participating non-member State, the value of the European unit of account being defined in the Financial Regulation applicable to the general budget of the European Communities and determined on the date of the call for funds.

Each participating non-member State shall pay the annual contribution under the Agreement at the beginning of each year and by 31 March at the latest. The maximum total contribution by each participating non-member State shall amount to 22 000 European units of account. Any delay in the payment of the annual contribution shall give rise to the payment of interest by the participating non-member States concerned at a rate equal to the highest rate of discount ruling in the States on the due date. That rate shall be increased by 0.25 of a percentage point for each month of delay. The increased rate shall be applied to the entire period of delay.

III. The funds accruing from the contributions of participating non-member States shall be credited to the concerted action project by being entered in the statement of revenue of the budget of the Commission as receipts within the meaning of the second subparagraph of Article 90(4) of the Financial Regulation of 21 December 1977 applicable to the general budget of the European Communities.

IV. The provisional timetable for the coordination costs referred to in Article 4 of the Agreement is annexed.

V. The Financial Regulation in force applicable to the general budget of the European Communities shall apply to the management of the appropriations; furthermore, the Commission shall ensure that such appropriations are managed in conformity with the rules of procedure for the implementation of the budget.

VI. At the end of each financial year, a statement of appropriations for the concerted action project shall be prepared and transmitted to the participating non-member States for information.

MULTIANNUAL TIMETABLE FOR THE CONCERTED ACTION PROJECT

'Physico-chemical behaviour of atmospheric pollutants' (Cost Project 61a bis)

Budget Item 3371 'Implementation of concerted action projects'

in EUA

	1979		1980		1981		1982		Total	
	AC	AP	AC	AP	AC	AP	AC	AP	AC	AP
I <i>Initial estimate</i> of overall requirements (figures appearing in the timetable of commitments and in the correspondence table shown in Annex II to the Commission budget)										
— Staff	87 100	87 100	} 125 000	} 125 000	} 135 000	} 135 000	} 140 000	} 140 000	} 500 000	} 500 000
— Administrative operating expenditure	12 900	12 900								
— Contracts										
Total (to be covered by appropriations entered in Item 3371)	100 000	100 000	125 000	125 000	135 000	135 000	140 000	140 000	500 000	500 000
II <i>Revised estimate</i> of expenditure taking into account additional requirements arising from the accession of participating non-member States										
— Staff	87 100	87 100	} 125 000	} 125 000	} 135 000	} 135 000	} 140 000	} 140 000	} 500 000	} 500 000
— Administrative operating expenditure	12 900	12 900								
— Contracts	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	44 000	44 000
New total	100 000 2 × 5 500	100 000 2 × 5 500	125 000 2 × 5 500	125 000 2 × 5 500	135 000 2 × 5 500	135 000 2 × 5 500	140 000 2 × 5 500	140 000 2 × 5 500	500 000 44 000	500 000 44 000
III Difference between I and II to be covered by contributions from participating non-member States	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	2 × 5 500	44 000	44 000

AC: Account credited

AP: Account paid

**Community-COST Concertation Agreement on a concerted action project in the field of
physico-chemical behaviour of atmospheric pollutants
(COST 61a bis)¹**

Decision of Community programmes: 9.10.1978

Date of entry into force: 1. 4.1980

Duration: 31.12.1982

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
EC	27.3.1980	1.4.1980
Yugoslavia	30.9.1980	30.9.1980
Austria	27.3.1980	²
Switzerland	30.6.1980	30.6.1980
Sweden	27.3.1980	1.4.1980

¹ OJ L 39, 15.02.1980, p. 19.

² Austria has not ratified this Agreement.

**Community-COST
Concertation Agreement on
a concerted action project in the field of analysis
of organic micropollutants in water**

(COST Project 64b bis)

Community-COST Concertation Agreement on a concerted action project in the field of analysis of organic micropollutants in water

(COST Project 64b bis)

The European Economic Community, hereinafter referred to as 'the Community',

Norway, Portugal, Sweden and Switzerland, hereinafter referred to as 'the participating non-member States',

Whereas a research project on the analysis of organic micropollutants in water, carried out pursuant to an Agreement concluded on 23 November 1971 in the framework of European Cooperation in the field of Scientific and Technical Research (COST project 64b), produced very encouraging results;

Whereas a European concerted research project in the above-mentioned field, continuing and extending COST project 64b is likely to contribute effectively to the reduction of environmental pollution;

Whereas by its Decision of 9 October 1978 the Council of the European Communities adopted a Community concerted action project in the field of analysis of organic micropollutants in water;

Whereas the Member States of the Community and the participating non-member States, hereinafter referred to as 'the States', intend, subject to the rules and procedures applicable to their national programmes, to carry out the research described in Annex A and are prepared to integrate such research into a process of concertation which they consider will be of mutual benefit;

Whereas the implementation of the research covered by the concerted action project will require a financial contribution of about 11 million European units of account from the States,

HAVE AGREED AS FOLLOWS:

Article 1

The Community and the participating non-member States, hereinafter referred to as 'the Contracting Parties', shall participate for a period extending until 3 November 1982 in a concerted action project in the field of analysis of organic micropollutants in water.

This project shall consist in concertation between the Community concerted action programme and the corresponding programmes of the participat-

ing non-member States. The programmes covered by this Agreement are listed in Annex A.

The States remain entirely responsible for the research executed by their national institutions or bodies.

Article 2

Concertation between the Contracting Parties shall be effected through a Community-COST Concertation Committee, hereinafter referred to as 'the Committee'.

The Committee shall draw up its rules of procedure. Its Secretariat will be provided by the Commission of the European Communities, hereinafter referred to as 'the Commission'.

The terms of reference and the composition of this Committee are defined in Annex B.

Article 3

In order to ensure optimum efficiency in the execution of this concerted action project, a project leader shall be appointed by the Commission in agreement with the participating non-member States.

Article 4

The maximum financial contribution by the Contracting Parties to the coordination costs shall be:

- 480 000 European units of account from the Community for a four-year period beginning on 4 November 1978;
- 32 000 European units of account from each participating non-member State for the period referred to in the first paragraph of Article 1.

The European unit of account is as defined by the Financial Regulation in force applicable to the general budget of the European Communities and by the financial arrangements adopted pursuant thereto.

The rules governing the financing of the Agreement are set out in Annex C.

Article 5

1. Through the Committee, the States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action project. They shall also endeavour to provide information on similar research planned or carried out by other bodies. Any information shall be treated as confidential if the State which provides it so requests.
2. In agreement with the Committee the Commission shall prepare yearly progress reports on the basis of the information supplied and shall forward them to the States.
3. At the end of the concertation period, the Commission shall, in agreement with the Committee, forward to the States a general report on the execution and results of the project. This report shall be published by the Commission six months after it has been for-

warded, unless a State objects. In that case the report shall be treated as confidential and shall be forwarded on request and with the agreement of the Committee, solely to the institutions and undertakings whose research or production activities justify access to knowledge resulting from the performance of the research covered by the concerted action project.

Article 6

1. Each of the Contracting Parties shall, after signing this Agreement, notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures necessary under its internal provisions for the implementation of this Agreement.
2. For the Contracting Parties which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the month following that in which the Community and at least one of the participating non-member States transmitted these notifications.

For those Contracting Parties which transmit the notification after the entry into force of this Agreement, it shall come into force on the first day of the second month following the month in which the notification was transmitted.

Contracting Parties which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months following the entry into force of this Agreement.

3. For a period of six months following its entry into force, this Agreement shall be open for accession by the other European States which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971. The instruments of accession shall be deposited with the Secretary-General of the Council of the European Communities. A State which accedes to this Agreement shall become a Contracting Party within the meaning of Article 1 on the date of deposit of the instrument of accession.
4. The Secretary-General of the Council of the European Communities shall notify each of the Contracting Parties of the deposit of the notifications provided for in paragraph 1, of the date of entry into force of this Agreement

and of the deposit of the instruments of accession provided for in paragraph 3.

Article 7

This Agreement, drawn up in a single original in

the Danish, Dutch, English, French, German and Italian languages, each text being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities which shall transmit a certified copy to each of the Contracting Parties.

Udfærdiget i Bruxelles, den syvogtyvende marts nitten hundrede og firs.

Geschehen zu Brüssel am siebenundzwanzigsten März neunzehnhundertachtzig.

Done at Brussels on the twenty-seventh day of March in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-sept mars mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventisette marzo millenovecentoottanta.

Gedaan te Brussel, de zevenentwintigste maart negentienhonderd tachtig.

ANNEX A

Programmes covered by the Agreement

1. Sampling and sample treatment:
 - general development and evaluation of methods;
 - methods for sampling sediments and indicator organisms.
2. Gas chromatographic analysis.
3. Coupling gas chromatographs and mass spectrometers.
4. Other separation techniques:
 - development of methods for liquid chromatography;
 - improvement of equipment;
 - other separation techniques.
5. Data collection and processing:
 - hard copy spectrum collection;
 - establishment of a spectrum library.
6. Establishment of inventories:
 - inventory of pollutants;
 - collection of data on conversion.

ANNEX B

Terms of reference and composition of the Community-COST Concertation Committee on analysis of organic micropollutants in water

1. The Committee shall:
 - 1.1 contribute to the optimum execution of the concerted action project by giving its opinion on all of its aspects;
 - 1.2 evaluate the results of the project and draw conclusions as to their application;
 - 1.3 be responsible for the exchange of information referred to in Article 5(1) of the Agreement;
 - 1.4 suggest guidelines to the project leader.
2. The Committee's reports and opinions shall be forwarded to the States.
3. The Committee shall be composed of two delegates from the Commission, one representing the programme of direct action, the other one as coordinator of the Community concerted action, one delegate from each participating non-member State, one delegate from each Member State representing its national programme, and the project leader. Each delegate may be accompanied by experts.

ANNEX C

Financial rules

I These provisions lay down the financial rules referred to in Article 4 of the Agreement on a concerted action project in the field of analysis of organic micropollutants in water (COST project 64b bis).

II At the beginning of each financial year, a call for funds shall be issued by the Commission to each of the participating non-member States. Such calls for funds shall express the contribution of the non-member State in question both in European units of account and in the currency of the participating non-member State, the value of the European unit of account being defined in the Financial Regulation applicable to the general budget of the European Communities and determined on the date of the call for funds.

Each participating non-member State shall pay the annual contribution under the Agreement at the beginning of each year and by 31 March at the latest. The maximum total contribution by each participating non-member State shall amount to 32 000 European units of account. Any delay in the payment of the annual contribution shall give rise to the payment of interest by the participating non-member States concerned at a rate equal to the highest rate of discount ruling in the States on the due date. That rate shall be increased by 0.25 of a percentage point for each month of delay. The increased rate shall be applied to the entire period of delay.

III The funds accruing from the contributions of participating non-member States shall be credited to the concerted action project by being entered in the statement of revenue of the budget of the Commission as receipts within the meaning of the second subparagraph of Article 90(4) of the Financial Regulation of 21 December 1977 applicable to the general budget of the European Communities.

IV The provisional timetable for the coordination costs referred to in Article 4 of the Agreement is annexed.

V The Financial Regulation in force applicable to the general budget of the European Communities shall apply to the management of the appropriations; furthermore, the Commission shall ensure that such appropriations are managed in conformity with the rules of procedure for the implementation of the budget.

VI At the end of each financial year, a statement of appropriations for the concerted action project shall be prepared and transmitted to the participating non-member States for information.

MULTIANNUAL TIMETABLE FOR THE CONCERTED ACTION PROJECT

'Analysis of organic micropollutants in water'
(COST project 64b bis)

Budget Item 3371 'Implementation of concerted action projects'

in EUA

	1979		1980		1981		1982		Total	
	AC	AP	AC	AP	AC	AP	AC	AP	AC	AP
I <i>Initial estimate</i> of overall requirements (figures appearing in the timetable of commitments and in the correspondence table shown in Annex II to the Commission budget)										
— Staff	63 100	63 100	} 121 050	} 121 050	} 126 750	} 126 750	} 106 200	} 106 200	} 480 000	} 480 000
— Administrative operating expenditure	14 000	14 000								
— Contracts	48 900	48 900								
Total (to be covered by appropriations entered in Item 3371)	126 000	126 000	121 050	121 050	126 750	126 750	106 200	106 200	480 000	480 000
II <i>Revised estimate</i> of expenditure taking into account additional requirements arising from the accession of participating non-member States										
— Staff	63 100	63 100	} 121 050	} 121 050	} 126 750	} 126 750	} 106 200	} 106 200	} 480 000	} 480 000
— Administrative operating expenditure	14 000	14 000								
— Contracts	48 900	48 900								
	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	128 000	128 000
New total	126 000	126 000	121 050	121 050	126 750	126 750	106 200	106 200	480 000	480 000
	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	128 000	128 000
III Difference between I and II to be covered by contributions from participating non-member States	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	4 × 8 000	128 000	128 000

AC: Account credited

AP: Account paid

**Community-COST Concertation Agreement on a concerted action project in the field of
analysis of organic micropollutants in water
(COST 64b bis)¹**

Decision of Community programmes: 9.10.1978

Date of entry into force: 1. 4.1980

Duration: 3.11.1982

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
EC	27.3.1980	1.4.1980
Spain	3.7.1980	3.7.1980
Yugoslavia	30.9.1980	30.9.1980
Norway	27.3.1980	²
Portugal	27.3.1980	²
Switzerland	27.3.1980	1.4.1980
Sweden	27.3.1980	1.4.1980

¹ OJ L 39, 15.2.1980, p. 25.

² Norway and Portugal have not ratified this Agreement.

**Community-COST Concertation Agreement
on a concerted action project on the effects
of processing on the physical properties of foodstuffs**

(COST Project 90)

Community-COST Concertation Agreement on a concerted action project on the effects of processing on the physical properties of foodstuffs

(COST Project 90)

The European Economic Community, hereinafter referred to as 'the Community',

Sweden and Switzerland, hereinafter referred to as the 'participating non-member States',

Whereas a European concerted research project in the field of food technology is likely to contribute effectively to a more economic use of national resources;

Whereas a programme of research in the field of food technology has been proposed by the Swedish delegation within the framework of European Cooperation in the field of Scientific and Technical Research (COST);

Whereas by its Decision of 20 February 1978 the Council of the European Communities adopted a Community concerted action project on the effect of processing on the physical properties of foodstuffs;

Whereas the Member States of the Community and the participating non-member States, hereinafter referred to as 'the States', intend, subject to the rules and procedures applicable to their national programmes, to carry out the research described in Annex A and are prepared to integrate such research into a process of concertation which they consider will be of mutual benefit;

Whereas the implementation of the research covered by the concerted action project will require a financial contribution of approximately 9 million European units of account from the States,

HAVE AGREED AS FOLLOWS:

Article 1

The Community and the participating non-member States, hereinafter referred to as 'the Contracting Parties', shall participate for a period extending until 24 February 1981 in a concerted action project on the effect of processing on the physical properties of foodstuffs.

This project shall consist in concertation between the Community concerted action programme and the corresponding programmes of the participating non-member States. The programmes covered by this Agreement are listed in Annex A.

The States remain entirely responsible for the research executed by their national institutions or bodies.

Article 2

The concertation between the Contracting Parties shall be effected through a Community-COST Concertation Committee, hereinafter referred to as 'the Committee'.

The Committee shall draw up its rules of procedure. Its Secretariat will be provided by the

Commission of the European Communities, hereinafter referred to as 'the Commission'.

The terms of reference and the composition of this Committee are defined in Annex B.

Article 3

In order to ensure optimum efficiency in the execution of this concerted action project, a project leader shall be appointed by the Commission in agreement with the participating non-member States.

Article 4

The maximum financial contribution by the Contracting Parties to the coordination costs shall be:

- 250 000 European units of account from the Community for a three year period beginning on 25 February 1978;
- 10 000 European units of account from each participating non-member State for the period referred to in the first paragraph of Article 1.

The European unit of account is as defined by the Financial Regulation in force applicable to the general budget of the European Communities and by the financial arrangements adopted pursuant thereto.

The rules governing the financing of the Agreement are set out in Annex C.

Article 5

1. Through the Committee, the States shall exchange regularly all useful information concerning the execution of the research covered by the concerted action project. They shall also endeavour to provide information on similar research planned or carried out by other bodies. Any information shall be treated as confidential if the State which provides it so requests.
2. In agreement with the Committee the commission shall prepare yearly progress reports on the basis of the information supplied and shall forward them to the States.
3. At the end of the concertation period, the Commission shall, in agreement with the Committee, forward to the States a general report on the execution and results of the project. This report shall be published by the Commission six months after it has been forwarded, unless a State objects. In that case the report shall be treated as confidential and

shall be forwarded on request and with the agreement of the Committee, solely to the institutions and undertakings whose research or production activities justify access to knowledge resulting from the performance of the research covered by the concerted action project.

Article 6

1. Each of the Contracting Parties shall, after signing this Agreement, notify the Secretary-General of the Council of the European Communities as soon as possible of the completion of the procedures necessary under its internal provisions for the implementation of this Agreement.
2. For the Contracting Parties which have transmitted the notification provided for in paragraph 1, this Agreement shall enter into force on the first day of the month following that in which the Community and at least one of the participating non-member States transmitted these notifications.

For those Contracting Parties which transmit the notification after the entry into force of this Agreement, it shall come into force on the first day of the second month following the month in which the notification was transmitted.

Contracting Parties which have not yet transmitted this notification at the time of entry into force of this Agreement shall be able to take part in the work of the Committee without voting rights for a period of six months following the entry into force of this Agreement.

3. For a period of six months following its entry into force, the Agreement shall be open for accession by the other European States which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971. The instruments of accession shall be deposited with the Secretary-General of the Council of the European Communities. A State which accedes to this Agreement shall become a Contracting Party within the meaning of Article 1 on the date of deposit of the instrument of accession.
4. The Secretary-General of the Council of the European Communities shall notify each of the Contracting Parties of the deposit of the notifications provided for in paragraph 1, of the date of entry into force of this Agreement and of the deposit of the instruments of accession provided for in paragraph 3.

Article 7

This Agreement, drawn up in a single original in the Danish, Dutch, English, French, German and

Italian languages, each text being equally authentic, shall be deposited in the archives of the General Secretariat of the Council of the European Communities which shall transmit a certified copy to each of the Contracting Parties.

Udfærdiget i Bruxelles, den syvogtyvende marts nitten hundrede og firs.

Geschehen zu Brüssel am siebenundzwanzigsten März neunzehnhundertachtzig.

Done at Brussels on the twenty-seventh day of March in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-sept mars mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventisette marzo millenovecentoottanta.

Gedaan te Brussel, de zeventwintigste maart negentienhonderd tachtig.

ANNEX A

Programmes covered by the Agreement

1. Rheology of liquid foods (viscosity):

- 1.0 no particular products;
- 1.1 milk products;
- 1.2 sugar products;
- 1.3 cereal products;
- 1.4 fruit products.

2. Sorption (water activity):

- 2.0 no particular product;
- 2.2 sugar products;
- 2.4 fruit products;
- 2.6 meat products.

3. Thermal properties:

- 3.0 no particular product;
- 3.4 fruit products;
- 3.5 vegetable products;
- 3.6 meat products;
- 3.7 fish products.

ANNEX B

Terms of reference and composition of the Community-COST Concertation Committee on the effects of processing on the physical properties of foodstuffs

1. The Committee shall:
 - 1.1 contribute to the optimum execution of the project by giving its opinion in all aspects of its progress;
 - 1.2 evaluate the results of the project and draw conclusions regarding their application;
 - 1.3 be responsible for the exchange of information referred to in Article 5(1) of the Agreement;
 - 1.4 suggest guidelines to the project leader;
 - 1.5 have the right to set up, in respect of each of the three physical properties defined in Annex A, a subcommittee to ensure that the programme is properly implemented.
2. The Committee's reports and opinions shall be forwarded to the States.
3. The Committee shall be composed of one delegate from the Commission, as coordinator of the Community concerted action project, one delegate from each participating non-member State, one delegate from each Member State representing its national programme, and the project leader. Each delegate may be accompanied by experts.

ANNEX C

Financing rules

I. These provisions lay down the financial rules referred to in Article 4 of the Agreement on a concerted action project in the field of processing on the physical properties of foodstuffs (COST project 90).

II. At the beginning of each financial year, a call for funds shall be issued by the Commission to each of the participating non-member States. Such calls for funds shall express the contribution of the non-member State in question both in European units of account and in the currency of the participating non-member State, the value of the European unit of account being defined in the Financial Regulation applicable to the general budget of the European Communities and determined on the date of the call for funds.

Each participating non-member State shall pay the annual contribution under the Agreement at the beginning of each year and by 31 March at the latest. The maximum total contribution by each participating non-member State shall amount to 10 000 European units of account. Any delay in the payment of the annual contribution shall give rise to the payment of interest by the participating non-member States concerned at a rate equal to the highest rate of discount ruling in the States on the due date. That rate shall be increased by 0.25 of a percentage point for each month of delay. The increased rate shall be applied to the entire period of delay.

III. The funds accruing from the contributions of participating non-member States shall be credited to the concerted action project by being entered in the statement of revenue of the budget of the Commission as receipts within the meaning of the second subparagraph of Article 90(4) of the Financial Regulation of 21 December 1977 applicable to the general budget of the European Communities.

IV. The provisional timetable for the coordination costs referred to in Article 4 of the Agreement is annexed.

V. The Financial Regulation in force applicable to the general budget of the European Communities shall apply to the management of the appropriations; furthermore, the Commission shall ensure that such appropriations are managed in conformity with the rules of procedure for the implementation of the budget.

VI. At the end of each financial year, a statement of appropriations for the concerted action project shall be prepared and transmitted to the participating non-member States for information.

MULTIANNUAL TIMETABLE FOR THE CONCERTED ACTION PROJECT

'Effects of processing on the physical properties of foodstuffs'
(COST project 90)

Budget Item 3371 'Implementation of concerted action projects'

in EUA

	1979		1980		1981		1982		Total	
	AC	AP	AC	AP	AC	AP	AC	AP	AC	AP
I <i>Initial estimate</i> of overall requirements (figures appearing in the timetable of commitments and in the correspondence table shown in Annex II to the Commission budget)										
— Staff										
— Administrative operating expenditure			35 500	35 500						
— Contracts			48 500	48 500						
	} 77 000	} 73 500			} 89 000	} 92 500			} 250 000	} 250 000
Total (to be covered by appropriations entered in Item 3371)	77 000	73 500	84 000	84 000	89 000	92 500			250 000	250 000
II <i>Revised estimate</i> of expenditure taking into account additional requirements arising from the accession of participating non-member States										
— Staff										
— Administrative operating expenditure			35 500	35 500	89 000	92 500			250 000	250 000
— Contracts			48 500	48 500						
			} 2 × 5 000	} 2 × 5 000	} 2 × 5 000	} 2 × 5 000			} 20 000	} 20 000
New total			84 000	84 000	89 000	92 500			250 000	250 000
			2 × 5 000	2 × 5 000	2 × 5 000	2 × 5 000			20 000	20 000
III Difference between I and II to be covered by contributions from participating non-member States			2 × 5 000	2 × 5 000	2 × 5 000	2 × 5 000			20 000	20 000

AC: Account credited

AP: Account paid

**Community-COST Concertation Agreement on a concerted action project on the effects
of processing on the physical properties of foodstuffs
(COST 90)¹**

Decision of Community programmes: 20.2.1978

Date of entry into force: 1.4.1980

Duration: 24.2.1981

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
EC	27.3.1980	1.4.1980
Switzerland	27.3.1980	1.4.1980
Finland	22.9.1980	26.9.1980
Sweden	27.3.1980	1.4.1980

¹ OJ L 39, 15.9.1980, p. 31.

**Memorandum of Understanding
for the implementation of a European research project
on phased array antennas and their
novel applications**

(COST Project 204)

Memorandum of Understanding for the implementation of a European research project on phased array antennas and their novel applications

(COST Project 204)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on phased array antennas, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of phased array antennas (Hereinafter referred to as 'the project').
 2. The main objective of the project is to coordinate and advance European research into phased array antennas and in particular to undertake research into various new fields of application.
 3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description given in Annex II, adhering as far as possible to a timetable to be decided by the Management Committee set up in Annex I (hereinafter referred to as 'the Committee').
- (a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');
 - (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');
 - (c) by evaluating the various methods and approaches used in these research activities and by making recommendations and allocating new tasks to the various laboratories on the basis of these evaluations;
 - (d) by arranging for frequent inter-laboratory visits and cooperating in an exchange of staff;

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

4. The overall value of the activities of the Signatories under the project is estimated at approximately 500 000 European units of account at 1979 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project by carrying out an accelerated exchange of information and in one or several of the following ways:

- (e) by providing services.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least three Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.

3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below three, the Committee will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.
2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign this Memorandum of Understanding will be considered by the Committee, which may attach special conditions thereto.
3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf both in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph and the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the dates of the signatures to this Memorandum of Understanding and of the date of its entry into effect, and will forward to them all notices which he has received under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fireogtyvende juli nitten hundrede og firs.

Geschehen zu Brüssel am vierundzwanzigsten Juli neunzehnhundertachtzig.

Done at Brussels on the twenty-fourth day of July in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-quatre juillet mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventiquattro luglio millenovecentottanta.

Gedaan te Brussel, de vierentwintigste juli negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee' will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1) of the Memorandum of Understanding, participate in the work of the Committee before becoming Signatories to the said Memorandum without however having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

(a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted to Signatories by the competent public authorities or bodies; any proposed changes to the project framework will be referred for advice to the COST Technical Committee 'Telecommunications'.

(b) advising on the direction that work should take;

(c) drawing up detailed plans and defining methods for the different phases of execution of the project;

(d) keeping abreast of the research being done in the territory of the Signatories and in other countries;

(e) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies and research contractors in respect of industrial property rights and commercially confidential material;

(f) drawing up the annual interim reports and the final report to be submitted to the Signatories and to the Technical Committee 'Telecommunications', and circulated as appropriate;

(g) dealing with any problems that may arise out of the execution of the project, including those relating to possible special conditions to be attached to accession to the Memorandum of Understanding in the case of applications submitted more than six months after the date of the first signature.

3. The Secretariat of the Committee will be provided, at the invitation of the Signatories, either by the Commission of the European Communities or by one of the Signatory States.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals accepted under this procedure will be submitted to the Committee.
2. Signatories will request their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public

authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. Signatories will request their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final report on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories intend to ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:
 - work in respect of the project; or
 - the applicant Signatory's projects in the same field; or
 - any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will ensure that clauses requiring the granting of the licences referred to in paragraph 1 will be inserted in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. Signatories will make every effort, in particular by ensuring that clauses are included in contracts placed with research contractors, to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Chapter II.2 and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension, the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position. In that event, the Committee will, in consultation with the research contractor, discuss ways and means to reach agreement.

4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer of rights will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

General description of the project

1. Introduction

Phased arrays offer several advantages over mechanically steered antennas. Since the beam direction can be changed very fast, one antenna is able to fulfil several tasks in time-multiplex operation. A properly designed feeding network even allows various tasks to be performed at the same time. With the aid of an electronic control, the radiation pattern can be adapted to the coverage area or to the angles of incidence of wanted signal or unwanted signals and noise (adaptive antennas). However, at present this great variety of possible applications involves one major disadvantage: the high cost incurred for the implementation of such antennas. The expenditure depends on the antenna concept and on the progress of technological developments, many of which are rapidly changing the economics of different systems. This is the reason why a great deal of the research activity in the field is dedicated to these two problems, in order to open up new possibilities of application.

At the moment, particular attention is being paid to applications in highly directive radio links (multibeam antennas, limited-scan antennas). In addition, the developments in the field of non-planar arrays (conformal arrays) are of great interest to antennas having a large scanning angle and to antennas adapted to the shape of flying objects.

2. Objectives of the project

The main objective of the project is to coordinate and advance European research into phased array antennas, in particular to carry out research into various new fields of application, and to undertake a large-scale exchange of information on the experiences and results obtained. The principal advantages of international collaboration are that comparisons can be made between a number of different situations, international standardization of systems is facilitated by joint planning in early design and more rapid progress may be achieved than with individual, uncoordinated efforts.

3. Scope of the project

3.1 The experience gained in COST Project 25/1 showed that, in order to ensure efficient cooperation, it is essential to cover the different interests of the public research establishments and research contractors. Therefore a technical programme has been defined which comprises a number of individual contributions from the likely participant countries. The research which has been identified, and which is of immediate importance, concerns antennas (arrays or hybrid reflector—array configurations) with shaped-beam, multi-beam, or limited-scan format. The main problem is the development of cost-effective solutions. The applications for these antennas include:

- 3.1.1 satellite communication links;
- 3.1.2 small ground stations for the reception of satellite TV signals;
- 3.1.3 radio relay links;
- 3.1.4 conformal antenna systems;
- 3.1.5 direction-finding systems;

3.1.6 air traffic control radar systems.

This programme of work is more fully described in 5.

3.2 Statement regarding common interests

The principle of a phased array is quite simple. In order to steer the antenna beam the radiating surface is composed of many small antenna elements where each element can be phase steered. This phase steering of the individual elements makes it possible to obtain electronic fast steering of the total beam. The fact that many antenna elements are required results in a rather expensive antenna system. The phased arrays used in different applications all resemble each other, but they may be built up by common microwave components, as for example, antenna radiating elements, phase shifters, attenuators, power dividers, and receiver and transmitter if circuits; they may be built by using different techniques like microstrip or stripline; they may be built by using different geometry; they may be built by using a common feed system or in modular form, etc. Much R & D work remains before the best and most economic solutions are found, and this is often beyond the means available or development timescale of an individual country. The main purpose of the project is to assist each participating country in finding the best solution to a specific phased array application through the exchange of experience and ideas with others who are faced with similar problems. This will highly benefit the other participating countries in their R & D efforts in the phased array field.

4. Appropriate form for cooperation

The suggested form of cooperation is that Signatories are represented in the Committee by delegates who would be expected to:

- attend and contribute to meetings of the Committee, these meetings typically numbering four annually;
- be involved in an active programme of phased array research, having defined objectives within the project time-scale.

Signatories are also expected to:

organize at least one meeting of the Committee at their public research establishments during the period of the project.

It is envisaged that, during the available project time-scale of three years, each Signatory would be responsible for the development of an engineering model of a phased array or hybrid reflector-array antenna to be used for a specific application.

5. Technical programme

The programme of work comprises a number of contributions covering a range of applications as described below.

5.1 Limited-scan antennas for radio relay links

Proposed contribution to the project by the Deutsche Bundespost (DBP), Federal Republic of Germany.

The DBP is concerned with techniques offering means of reducing multipath interference effects in radio relay links. Work performed at the DBP has indicated that electronically-controlled limited-scan antennas show promise of achieving significant improvements in this respect. The following programme of work is proposed:

5.1.1 Theoretical study of a hybrid reflector-array limited-scan antenna;

5.1.2 Fabrication and experimental evaluation of an engineering model of the limited-scan antenna. The feed system will include an electronically-controlled adaptive steering network.

Strong emphasis will be given to low-cost solutions to the limited-scan antenna requirement. The outline electrical performance specifications required for the antenna are indicated below:

Antenna for transmission and reception;
Gain in the order of 40dB;
Steering range of ± 2 to ± 7 half-power beamwidths;
Level variation in the scanning range in the order of 2 dB;
Focal over diameter ratio in the order of 0.5.

5.2 Electronically-steered beams from conformal surfaces

The following programme of work has commenced at Chalmers University of Technology, Gothenburg, and is proposed as Sweden's contribution to the project:

- 5.2.1 Theoretical study of antenna beam steering from a cylindrical surface;
- 5.2.2 Development of conformal array components in L-band and C-band;
- 5.2.3 Development of a linear test antenna in L-band, with 16 microstrip elements. Combined varactor — PIN diode phase shifters and power dividers in stripline technique;
- 5.2.4 Evaluation of the L-band antenna;
- 5.2.5 Two-dimensional engineering model of C-band antenna system on a cylindrical surface;
- 5.2.6 Evaluation of the C-band antenna.

5.3 Electronically-steerable phased array for satellite communications

The following programme of work is submitted as the contribution of University College, London, to the project:

- 5.3.1 Theoretical study of antenna array elements and their performance in an array environment;
- 5.3.2 Prediction of radiation patterns and the control of side-lobes by space tapering of the elements;
- 5.3.3 Evaluation of various low-noise receiver designs for each element — FET amplifiers, FET mixers, parametric amplifiers and diode ring mixers;
- 5.3.4 Construction of a small planar array to test the design principles.

5.4 Limited-scan antennas for reception of satellite TV signals and for radio relay links

The following programme of work is submitted by the Technical Research Centre of Finland as a contribution to the project:

With future satellite TV systems, there will be considerable interest in receiving not only national transmissions, but also those from other countries. Therefore, many different antennas or a steered antenna will be needed. Another possibility is to use a limited-scan phase-steered antenna, which could also be used for beam position compensation, the latter being needed because of satellite motion or atmospheric effects.

A similar kind of antenna is also of interest in radio links to reduce multipath interference effects (as mentioned in the DBP proposal, under 5.1.).

The main emphasis of the work is the design of an antenna which has the required steering angle, electronically, and which at the same time is a low-cost product.

The following programme of work is proposed:

5.4.1 Theoretical study of limited-scan antennas;

5.4.2 Evaluating possibilities from the study for the specific applications of satellite TV reception and radio links;

5.4.3 Development of an engineering model of a limited-scan antenna.

5.5 Improved antennas for microwave radio links

The following programme of work is submitted by the Netherlands PTT as a contribution to the project:

The Netherlands PTT is studying the possibility of using antennas specially designed for improved reception of radio signals on microwave links using multipath fading conditions. In a preliminary phase, a systems study should show the usefulness and possibilities of such antennas for the systems used in the Netherlands. In the event of a successful systems study, the first phase of the programme would involve definition of the most suitable antenna configuration. Items specifically to be defined are the required gain, nominal and lowest suppression of unwanted rays, polarization properties and steering requirements. In a second phase, theoretical studies for the design of a practical antenna would be made. These studies could possibly be followed in a third phase by the construction of a laboratory model of such an antenna.

5.6 Feasibility study of an air traffic control radar with multiple, shape-controlled beams with minimum squint

The following programme of work is submitted by Selenia Spa, Italy, as a contribution to the project:

It is intended to demonstrate a phased array application to air-traffic control through a comparison of different configurations by means of computer evaluation of performance. The antenna will consist of a phased array feed and an offset reflector shaped to obtain a vertical cosec² coverage pattern. The transmit beam will be fixed, and there will be four receive beams differently squinted in the vertical plane with electronic switching between beams.

5.7 Other contributions that may be offered will be integrated into the overall programme as appropriate. The determination of further technical details of the programme of work and of any priorities and timescales to be applied will be the responsibility of the Signatories acting through the Committee.

**Memorandum of Understanding for the implementation of a European
research project on phased array antennas and their novel applications
(COST 204)¹**

Date of entry into force: 24.7.1980

Duration: 23.7.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	2. 7.1981	2. 7.1981
Germany (Fed. Rep. of)	13.11.1980	13.11.1980
Italy	24. 7.1980	24. 7.1980
Netherlands	23. 7.1981	23. 7.1981
United Kingdom	24. 7.1980	24. 7.1980
ESA	6. 9.1982	6. 9.1982
Finland	24. 7.1980	24. 7.1980
Sweden	24. 7.1980	24. 7.1980

¹ Not published in the Official Journal.

Memorandum of Understanding
for the implementation of a European research project
on influence of the atmosphere on
radiopropagation on satellite-earth
paths at frequencies
above 10 GHz

(COST Project 205)

Memorandum of Understanding
for the implementation of a European research project
on influence of the atmosphere on
radiopropagation on satellite-earth
paths at frequencies
above 10 GHz

(COST Project 205)

The Signatories to this Memorandum of Understanding, being actively involved in relevant experimental programmes and declaring their common intention to take part in a European research project on influence of the atmosphere on radiopropagation on satellite-earth paths at frequencies above 10 GHz, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to collect, correlate and analyse data on radio wave propagation phenomena on satellite-earth paths emphasizing the influence of the atmospheric conditions (hereinafter referred to as 'the project').
2. The main objective of the project is to collate and assess the results of European activities in the field of slant-path propagation above 10 GHz, especially in conjunction with OTS and SIRIO experiments, in order to produce a comprehensive unified data base with which models can be developed or evaluated for the European area. The propagation models will serve as a basis for planning future European satellite communication systems.
3. The Signatories hereby declare their intention of carrying out the project jointly, in accordance with the general description given in Annex II, adhering, as far as possible, to a timetable to be decided by the Management Committee set up in Annex I (hereinafter referred to as 'the Committee').

The project will be carried out through concerted action, in accordance with the provisions of Annex I.

4. The cost of the activities of the Signatories related to the implementation of this project is estimated at approximately 1 million European units of account at 1979 prices.

The Signatories will make every effort to ensure that the necessary funds are made available under their internal financing procedures.

Section 2

Signatories intend to take part in the project by carrying out an accelerated exchange of information and in one or several of the following ways:

- (a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');

- (c) by providing results of their research for collation and assessment by the Committee;
- (d) by evaluating the various methods and approaches used in these research activities and by making recommendations and allocating new tasks to the various laboratories on the basis of these evaluations;
- (e) by arranging for frequent inter-laboratory visits;
- (f) by providing services.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Committee will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six

months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community and the European Space Agency.

Any of the Governments referred to in the first subparagraph, the European Economic Community, and the European Space Agency may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1, from the European Economic Community or the European Space Agency, to sign this Memorandum of Understanding will be considered by the Committee, which may attach special conditions thereto.
3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf both in respect of the implementation of the project and in respect of any ensuing rights and obligations.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the dates of the signatures to this Memorandum of Understanding and of the date of its entry into effect, and will forward to them all notices which he has received under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fireogtyvende juli nitten hundrede og firs.

Geschehen zu Brüssel am vierundzwanzigsten Juli neunzehnhundertachtzig.

Done at Brussels on the twenty-fourth day of July in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-quatre juillet mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventiquattro luglio millenovecentoottanta.

Gedaan te Brussel, de vierentwintigste juli negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee') will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community and the European Space Agency may, in accordance with the second subparagraph of Section 4(1) of the Memorandum of Understanding, participate in the work of the Committee before becoming Signatories to the said Memorandum without however having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

(a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted to Signatories by the competent public authorities or bodies; any proposed changes to the project framework will be referred for advice to the COST Technical Committee 'Telecommunications';

(b) advising on the direction that work should take;

(c) drawing up detailed plans and defining methods for the different phases of execution of the project;

(d) keeping abreast of the research being done by the Signatories and in other countries;

(e) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies and research contractors in respect of intellectual property rights and confidential material;

(f) drawing up the annual interim reports and the final report to be submitted to the Signatories and to the Technical Committee 'Telecommunications', and circulated as appropriate;

(g) dealing with any problems that may arise out of the execution of the project, including those relating to possible special conditions to be attached to accession to the Memorandum of Understanding in the case of applications submitted more than six months after the date of the first signature.

3. The Secretariat of the Committee will be provided, at the invitation of the Signatories, either by the Commission of the European Communities or by one of the Signatories.

II

1. Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals accepted under this procedure will be submitted to the Committee.
2. Signatories will request their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the public

authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. Signatories will request their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final report on the results obtained will have much wider circulation, covering at least the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, Signatories intend to ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of the project; or
- the applicant Signatory's projects in the same field; or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. Signatories will ensure that clauses requiring the granting of the licences referred to in paragraph 1 will be inserted in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. Signatories will make every effort, in particular by ensuring that clauses are included in contracts placed with research contractors, to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to industrial property rights notified in accordance with Chapter II.2 and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension, the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position. In that event, the Committee will, in consultation with the research contractor, discuss ways and means to reach agreement.
4. Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this chapter will not be affected by any subsequent transfer of rights to

ownership of the research results. Any such transfer of rights will be notified to the Committee.

5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

General description of the project

1. Introduction

Recent developments in satellite communications at frequencies above 10 GHz have highlighted the necessity for a comprehensive unified data base for the planning of satellite communication systems at these frequencies in Europe.

An increasing amount of information on slant-path propagation is now becoming available especially from European satellites (OTS and SIRIO), and from radio-metric and radar measurements. However, there is, at present, no centralized mechanism for the collation and assessment of all these results together with other relevant propagation data in order to reach conclusions which have general validity for the European area.

Existing organizations (e.g. Interim Eutelsat, the Italian Space Research and Telecommunications Centre, (CSTS), the European Space Agency (ESA) and the European Broadcasting Union (EBU)) either have an interest focused on particular satellite applications or lack the appropriate structure to carry out this function.

Consequently, it is important that a joint European effort is initiated to fulfil this need, and a new COST project is considered to be the appropriate framework for this purpose.

The competence acquired and the efficient framework established within the previous COST Project 25/4 could be successfully utilized for this task. The co-ordination of the extensive radio propagation and associated meteorological measurements carried out throughout Europe within the COST 25/4 framework and the unification of the procedures for the comparison of the results obtained was a unique feature of this project.

2. Objective of the project

The objective of the project is to collate and assess the results of European activities in the field of slant-path propagation above 10 GHz in order to produce a comprehensive unified data base with which models can be developed or evaluated for the European area. These propagation models will serve as a basis for planning future European satellite communication systems.

3. Scope and schedule of the activities of the project

There are at present approximately 40 stations collecting propagation data with the OTS and SIRIO satellites. In addition there is a considerable number of associated facilities including radiometers, radars and raingauges from which relevant data will also be available.

In order to fulfil the objective of the project the activities will include:

- definition of requirements for the data base, harmonization of the criteria of data collection and establishment of unified data presentation formats;
- data collection, circulation and examination;
- establishment of a common reliable data base;
- analysis of data collected and general discussion of results and conclusions.

4. Appropriate form for cooperation

The suggested form of cooperation is that Signatories are represented in the Committee by delegates who would be expected to:

- attend and contribute to meetings of the Committee, these meetings typically numbering three annually;
- be involved in an active programme in the framework of the project objective and time scale;
- be responsible for liaising between the Committee and their national groups of experimenters.

Meetings of the Committee will usually be held in Brussels, although meetings in the participating countries are also envisaged.

Through the participation of experts from other European or international organizations, such as EBU and Interim Eutelsat, the Committee should ensure appropriate coordination with their activities.

5. Envisaged cost of the activities in the project

A large European investment has already been made involving both the OTS and SIRIO satellites and the associated ground facilities. Consequently the objective of this project is to make full European use of existing facilities.

At present in many countries an active research programme is already underway. However Signatories may wish to make additional funds available from time to time in order to increase their participation in the project.

In all cases funds should be made available for the work of the Committee. In particular this includes:

- coordination of national efforts;
- preparation of contributions to the Committee meetings;
- travel expenses.

The average total cost per Signatory for the work of the Committee is estimated at 15 000 European units of account for travel expenses plus 1.5 man/year for the entire period of the project.

**Memorandum of Understanding for the implementation of a European research project
on influence of the atmosphere on radiopropagation on satellite-earth
paths at frequencies above 10 GHz
(COST 205)¹**

Date of entry into force: 24. 7.1980

Duration: 23. 7.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	24. 7.1980	24. 7.1980
Denmark	24. 7.1980	24. 7.1980
Germany (Fed. Rep. of)	13.11.1980	13.11.1980
France	24. 7.1980	24. 7.1980
Italy	24. 7.1980	24. 7.1980
Ireland	6. 5.1982	6. 5.1982
Netherlands	23. 7.1981	23. 7.1981
United Kingdom	24. 7.1980	24. 7.1980
ESA	24. 7.1980	24. 7.1980
Austria	20. 5.1981	20. 5.1981
Portugal	27.10.1980	27.10.1980
Finland	24. 7.1980	24. 7.1980
Sweden	24. 7.1980	24. 7.1980

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European
research project on maize as a basic feed
for beef production**

(COST Project 82)

Memorandum of Understanding for the implementation of a European research project on maize as a basic feed for beef production

(COST Project 82)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on maize as a basic feed for beef production, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of maize as a basic feed for beef production (hereinafter referred to as 'the project').
2. The main objective of the project is to conduct a systematic investigation of the most efficient method of use and supplementation of maize feed to provide adequate nutrition and product quality.
3. The Signatories hereby declare their intention to carry out the project jointly, in accordance with the general description and indicative pattern of potential participation given in Annex II.

The project will be carried out through concerted action, in accordance with Annex I.

Section 2

The Signatories intend to take part in the project in one or several of the following ways:

- (a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');

(c) by contributing to the provision of secretariat and/or other services or activities of a coordinatory character necessary for the aims of the project to be achieved.

In connection with (c), the Signatories will make every effort to ensure the effective functioning of the Committee referred to in Annex I.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least five Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below five, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign this Memorandum will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings:

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the date of the signatures to this Memorandum of Understanding, and the date of its entry into effect, and will forward to them all notices which he receives under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fireogtyvende juli nitten hundrede og firs.

Geschehen zu Brüssel am vierundzwanzigsten Juli neunzehnhundertachtzig.

Done at Brussels on the twenty-fourth day of July in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-quatre juillet mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventiquattro luglio millenovecentoottanta.

Gedaan te Brussel, de vierentwintigste juli negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1), participate in the work of the Committee before becoming Signatories to the Memorandum of Understanding without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

(a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework shall be referred for an opinion to the Committee of Senior Officials for Scientific and Technical Research (COST);

(b) advising on the direction that work should take;

(c) drawing up detailed plans and defining methods for the different phases of execution of the project;

(d) coordinating the contributions referred to in subparagraph (c) of Section 2 of the Memorandum of Understanding;

(e) keeping abreast of the research being done in the territory of the Signatories and in other countries;

(f) liaising with appropriate international bodies;

(g) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies, and research contractors in respect of industrial property rights and commercially confidential material;

(h) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as may be deemed necessary;

(i) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign the Memorandum of Understanding submitted more than six months after the date of the first signature.

3. The secretariat of the Committee will be provided at the invitation of the Signatories either by the Commission of the European Communities or by a body nominated by the Government of one of the Signatory States.

II

1. The Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent

public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Committee.

2. The Signatories will require their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the competent public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. The Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, extending at least to the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, the Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of the project; or
- the applicant Signatory's projects in the same field; or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. The Signatories will accordingly ensure that clauses requiring the granting of the licences referred to in paragraph 1 are included in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. The Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to previous industrial property rights and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, before the contract is concluded, give the Committee the opportunity to state its position. In that event the Committee will, in consultation with the research contractor, discuss ways and means of reaching agreement.

4. The Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project and indicative pattern of potential participation

I. GENERAL DESCRIPTION OF THE PROJECT

The main research topics are as follows:

1. *Practical and applied aspects of using the maize crop (whole plant, grain and stover) for beef production, including reference to the use of alternative feeds:*

- the use of supplements supplying energy, protein, non-protein nitrogen (NPN) and minerals plus vitamins;
- utilization of crop by-products;
- effect of smut fungal infection of the maize crop on its feeding value and on possible toxic residues (alkaloids) in meat;
- systems of feeding beef cattle on the maize crop in relation to other feeds.

2. *Methods of measuring the nutritive value of the maize crop and alternative forages or crop residues for ruminant production:*

- standardization of techniques, particularly in vivo digestibility measurement;
- methods of predicting feeding value (dry matter, energy and protein).

II. INDICATIVE PATTERN OF POTENTIAL PARTICIPATION

Research topics	A	B	CH	D	DK	E	F	UK	GR	I	IRL	L	N	NL	P	S	SF	TR	YU
1. Practical and applied aspects of using the maize crop (whole plant, grain and stover) for beef production, including reference to the use of alternative feeds		X	X	X		(X)		(X)	X	(X)	(X)			X	(X)	X			X
2. Methods of measuring the nutritive value of the maize crop and alternative forages or crop residues for ruminant production		X	X	X		(X)		(X)	X	(X)	(X)			X	(X)	X			X

(X)= Not confirmed.

**Memorandum of Understanding for the implementation of a European
research project on maize as a basic feed
for beef production (COST 82)¹**

Date of entry into force: 24. 7.1980

Duration: 23. 7.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	24.7.1980	24.7.1980
Denmark	24.7.1980	24.7.1980
Germany (Fed. Rep. of)	24.7.1980	24.7.1980
Netherlands	24.7.1980	24.7.1980
Spain	23.1.1981	23.1.1981
Switzerland	24.7.1980	24.7.1980
Sweden	24.7.1980	24.7.1980
Turkey	15.5.1981	15.5.1981

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European research project
on the early weaning of piglets**

(COST Project 85)

Memorandum of Understanding for the implementation of a European research project on the early weaning of piglets

(COST Project 85)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on the early weaning of piglets, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of the early weaning of piglets (hereinafter referred to as 'the project').
2. The main objective of the project is to produce more and heavier piglets per sow per year. The selected topics involve applied research into the most profitable way of producing piglets under both high and low cost systems.
3. The Signatories hereby declare their intention to carry out the project jointly, in accordance with the general description and indicative pattern of potential participation given in Annex II.

The project will be carried out through concerted action, in accordance with Annex I.

Section 2

The Signatories intend to take part in the project in one or several of the following ways:

- (a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');
- (b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');

(c) by contributing to the provision of secretariat and/or other services or activities of a coordinatory character necessary for the aims of the project to be achieved.

In connection with (c), the Signatories will make every effort to ensure the effective functioning of the Committee referred to in Annex I.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least five Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below five, the Committee referred to in Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign this Memorandum will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the date of the signatures to this Memorandum of Understanding, and the date of its entry into effect, and will forward to them all notices which he receives under this Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den fireogtyvende juli nitten hundrede og firs.

Geschehen zu Brüssel am vierundzwanzigsten Juli neunzehnhundertachtzig.

Done at Brussels on the twenty-fourth day of July in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-quatre juillet mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì ventiquattro luglio millenovecentoottanta.

Gedaan te Brussel, de vierentwintigste juli negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The Participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1), participate in the work of the Committee before becoming Signatories to the Memorandum of Understanding, without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

(a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework shall be referred for an opinion to the Committee of Senior Officials for Scientific and Technical Research (COST);

(b) advising on the direction that work should take;

(c) drawing up detailed plans and defining methods for the different phases of execution of the project;

(d) coordinating the contributions referred to in subparagraph (c) of Section 2 of the Memorandum of Understanding;

(e) keeping abreast of the research being done in the territory of the Signatories and in other countries;

(f) liaising with appropriate international bodies;

(g) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies, and research contractors in respect of industrial property rights and commercially confidential material;

(h) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as may be deemed necessary;

(i) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign the Memorandum of Understanding submitted more than six months after the date of the first signature.

3. The Secretariat of the Committee will be provided at the invitation of the Signatories either by the Commission of the European Communities or by a body nominated by the Government of one of the Signatory States.

II

1. The Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Committee.
2. The Signatories will require their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the competent public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. The Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, extending at least to the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, the Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of the project; or
- the applicant Signatory's projects in the same field; or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. The Signatories will accordingly ensure that clauses requiring the granting of the licences referred to in paragraph 1 are included in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. The Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to previous industrial property rights and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, be-

fore the contract is concluded, give the Committee the opportunity to state its position. In that event the Committee will, in consultation with the research contractor, discuss ways and means of reaching agreement.

4. The Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project and indicative pattern of potential participation

I. GENERAL DESCRIPTION OF THE PROJECT

Generally, all the research topics will be aimed at the elimination of the most serious constraints to early weaning such as embryonic mortality, ovulation rate, nutritional requirements as well as environmental, management and cost considerations. The research topics are as follows:

1. *Rearing of piglets in cages and sow fertility as affected by length of lactation.*
2. *Ration composition for early weaned piglets.*
3. *The effect of age at weaning and of the piglet rearing method on subsequent performance.*

II. INDICATIVE PATTERN OF POTENTIAL PARTICIPATION

Research topics	A	B	CH	D	DK	E	F	UK	GR	I	IRL	L	N	NL	P	S	SF	TR	YU
1. Rearing of piglets in cages and sow fertility as affected by length of lactation		X	X	X	X		X	X											X
2. Ration composition for early weaned piglets		X			X		X	X		X	(X)					X			X
3. The effect of age at weaning and of the piglet rearing method on subsequent performance		X		X	X		X	X		X									X

(X) = Not confirmed.

**Memorandum of Understanding for the implementation of a European
research project on the early weaning of piglets
(COST 85)¹**

Date of entry into force: 24.7.1980

Duration: 23.7.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	24.7.1980	24.7.1980
Denmark	24.7.1980	24.7.1980
Germany (Fed. Rep. of)	24.7.1980	24.7.1980
Ireland	15.1.1981	15.1.1981
United Kingdom	24.7.1980	24.7.1980
Spain	23.1.1981	23.1.1980
Switzerland	24.7.1980	24.7.1980
Sweden	24.7.1980	24.7.1980

¹ Not published in the Official Journal.

**Memorandum of Understanding
for the implementation of a European
research project on mineral nutrition of
basic field crops**

(COST Project 86)

Memorandum of Understanding for the implementation of a European research project on mineral nutrition of basic field crops

(COST Project 86)

The Signatories to this Memorandum of Understanding, declaring their common intention to take part in a European research project on mineral nutrition of basic field crops, have reached the following understandings:

Section 1

1. The Signatories intend to cooperate in a project to promote research in the field of mineral nutrition of basic field crops (hereinafter referred to as 'the project').
2. The main objective of the project is to acquire a knowledge of the dynamics of soil organic matter (DSOM) in order to improve the efficiency of nitrogen utilization, not only in economic terms as a financial input/output relationship, but also for crop yield and quality and environmental reasons.
3. The Signatories hereby declare their intention to carry out the project jointly, in accordance with the general description and indicative pattern of potential participation given in Annex II.

The project will be carried out through concerted action, in accordance with Annex I.

Section 2

The Signatories intend to take part in the project in one or several of the following ways:

(a) by carrying out studies and research in their technical services or public research establishments (hereinafter referred to as 'public research establishments');

(b) by concluding contracts for studies and research with organizations (hereinafter referred to as 'research contractors');

(c) by contributing to the provision of secretariat and/or other services or activities of a coordinatory character necessary for the aims of the project to be achieved.

In connection with (c), the Signatories will make every effort to ensure the effective functioning of the Committee referred to in Annex I.

Section 3

1. This Memorandum of Understanding will take effect for three years upon signature by at least four Signatories. It may be extended by arrangement between the Signatories.
2. This Memorandum of Understanding may be amended in writing at any time by arrangement between the Signatories.
3. A Signatory which intends for any reason whatsoever to terminate its participation in the project may do so after having given written notification of such intention to the Secretary-General of the Council of the European Communities at least three months beforehand.
4. If at any time the number of Signatories falls below four, the Committee referred to in

Annex I will examine the situation which has arisen and consider whether or not this Memorandum of Understanding should be terminated by decision of the Signatories.

Section 4

1. This Memorandum of Understanding will remain open for signature for a period of six months from the date of the first signature, by the Governments which took part in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also by the European Economic Community.

Any of the Governments referred to in the first subparagraph or the European Economic Community may take part on a provisional basis in the project during the above-mentioned period even though it may not have signed this Memorandum of Understanding.

2. After this period of six months has elapsed, applications from the Governments referred to in paragraph 1 or from the European Economic Community to sign this Memorandum

will be considered by the Committee referred to in Annex I, which may attach special conditions thereto.

3. Any Signatory may designate one or more competent public authorities or bodies to act on its behalf in respect of the implementation of the project and in respect of any ensuing rights and obligations. The term 'competent public authorities or bodies' does not include industrial undertakings.

Section 5

1. The Secretary-General of the Council of the European Communities will inform all Signatories of the date of the signatures to this Memorandum of Understanding, and the date of its entry into effect, and will forward to them all notices which he receives under the Memorandum of Understanding.
2. This Memorandum of Understanding will be deposited with the General Secretariat of the Council of the European Communities. The Secretary-General will transmit a certified copy to each of the Signatories.

Udfærdiget i Bruxelles, den femogtyvende september nitten hundrede og firs.

Geschehen zu Brüssel am fünfundzwanzigsten September neunzehnhundertachtzig.

Done at Brussels on the twenty-fifth day of September in the year one thousand nine hundred and eighty.

Fait à Bruxelles, le vingt-cinq septembre mil neuf cent quatre-vingt.

Fatto a Bruxelles, addì venticinque settembre millenovecentoottanta.

Gedaan te Brussel, de vijfentwintigste september negentienhonderd tachtig.

ANNEX I

Coordination of the project

I

1. A Management Committee (hereinafter referred to as 'the Committee'), will be set up, composed of not more than two representatives for each Signatory. Each representative may be accompanied by such experts or advisers as he or she may need.

The participants in the Ministerial Conference held in Brussels on 22 and 23 November 1971 and also the European Economic Community may, in accordance with the second subparagraph of Section 4(1), participate in the work of the Committee before becoming Signatories to the Memorandum of Understanding without, however, having the right to vote.

2. The Committee will be responsible for coordinating the project and in particular for making the necessary arrangements for:

- (a) the choice of research topics on the basis of those provided for in Annex II including any modifications submitted by the competent public authorities or bodies of the Signatories; any proposed changes to the project framework shall be referred for an opinion to the Committee of Senior Officials for Scientific and Technical Research (COST);

- (b) advising on the direction that work should take;

- (c) drawing up detailed plans and defining methods for the different phases of execution of the project;

- (d) coordinating the contributions referred to in subparagraph (c) of Section 2 of the Memorandum of Understanding;

- (e) keeping abreast of the research being done in the territory of the Signatories and in other countries;

- (f) liaising with appropriate international bodies;

- (g) exchanging research results amongst the Signatories to the extent compatible with adequate safeguards for the interests of Signatories, their competent public authorities or bodies, and research contractors in respect of industrial property rights and commercially confidential material;

- (h) drawing up the annual interim reports and the final report to be submitted to the Signatories and circulated as appropriate; to this end, Signatories will require their public research establishments or research contractors to submit periodic reports and a final report, as may be deemed necessary;

- (i) dealing with any problems that may arise out of the execution of the project, including, if necessary, special conditions to be attached to applications to sign the Memorandum of Understanding submitted more than six months after the date of the first signature.

3. The Secretariat of the Committee will be provided at the invitation of the Signatories either by the Commission of the European Communities or by a body nominated by the Government of one of the Signatory States.

II

1. The Signatories will invite public research establishments or research contractors in their territories to submit proposals for research work to their respective competent public authorities or bodies. Proposals that are accepted under this procedure will be submitted to the Committee.
2. The Signatories will require their public research establishments or research contractors, before the Committee takes any decision on a proposal, to submit to the competent public authorities or bodies referred to in paragraph 1 notification of previous commitments and industrial property rights which they consider might preclude or hinder the fulfilment of the projects of the Signatories under the Memorandum of Understanding.

III

1. The Signatories will require their public research establishments or research contractors to submit periodic progress reports and a final report.
2. These progress reports will be confidential and circulated only to the representatives of the Signatories on the Committee. The final reports on the results obtained will have much wider circulation, extending at least to the Signatories' public research establishments or research contractors concerned.

IV

1. Subject to national law, the Signatories will ensure that the owners of industrial property rights and technical information resulting from work carried out in implementation of that part of the project assigned to them under Annex II (hereinafter referred to as 'the research results') will be under an obligation, if so requested by another Signatory (hereinafter referred to as 'the applicant Signatory'), to supply the research results and to grant to the applicant Signatory or a third party nominated by the applicant Signatory a licence to use the research results and such technical know-how incorporated therein as is necessary for such use if the applicant Signatory requires the granting of a licence for the carrying out of:

- work in respect of the project; or
- the applicant Signatory's projects in the same field; or
- any associated European project undertaken subsequently and in which all the Signatories, or several of them, may be prepared to take part.

Such licences will be granted on fair and reasonable terms having regard to commercial usage.

2. The Signatories will accordingly ensure that clauses requiring the granting of the licences referred to in paragraph 1 are included in any contract which they place with research contractors for study, research and development work to be carried out in the execution of the project.
3. The Signatories will make every effort, in particular by including clauses in contracts placed with research contractors to provide for the licence referred to in paragraph 1 to be extended on fair and reasonable terms, having regard to commercial usage, to previous industrial property rights and to prior technical know-how acquired by the research contractor insofar as use of the research results for the purpose referred to in paragraph 1 would not otherwise be possible. Where the research contractor is unable or unwilling to agree to such extension the Signatory will, be-

fore the contract is concluded, give the Committee the opportunity to state its position. In that event the Committee will, in consultation with the research contractor, discuss ways and means of reaching agreement.

4. The Signatories will take any steps necessary to ensure that the fulfilment of the conditions of this Chapter will not be affected by any subsequent transfer of rights to ownership of the research results. Any such transfer will be notified to the Committee.
5. If a Signatory terminates its participation in the project, rights of use which it has granted or is obliged to grant to or has obtained from other Signatories in application of the Memorandum of Understanding and concerning work carried out up to the date on which the said Signatory terminates its participation, will continue thereafter.
6. The conditions of paragraphs 1 to 5 will continue to apply after the period of operation of the Memorandum of Understanding has expired and will apply to industrial property rights as long as these remain valid, and to unprotected inventions and technical know-how until such time as they pass into the public domain other than through disclosure by the licensee.

ANNEX II

General description of the project and indicative pattern of potential participation

I. GENERAL DESCRIPTION OF THE PROJECT

The research topics are as follows:

1. *Investigation of the dynamics of soil organic matter*

Mineral nitrogen fertilization efficiency with and without addition of organic materials of different sources as affected by environmental, biological and other factors.

2. *The residual efficiency of plant protection products on plant growth, as affected by the dynamics of soil organic matter system (DSOMS)*

3. *Preliminary investigations on the content of phenolic compounds in plant varieties as a possible explanation for higher resistance of some plants to disease*

The results of the research will be assessed by using a uniform and detailed system of routine and specific measurements on soils and crops (yield and quality) and climate.

II. INDICATIVE PATTERN OF POTENTIAL PARTICIPATION

Research topics	A	B	CH	D	DK	E	F	UK	GR	I	IRL	L	N	NL	P	S	SF	TR	YU
1. Investigation of the dynamics of soil organic matter	(X)	(X)	X	X					(X)	(X)	(X)			X					X
2. The residual efficiency of plant protection products on plant growth as affected by the DSOMS		(X)		X															
3. Preliminary investigations on the content of phenolic compounds in plant varieties as a possible explanation for higher resistance of some plants to disease			X	X						(X)									X

(X)= Not confirmed.

**Memorandum of Understanding for the implementation
of a European research project on mineral nutrition of basic field crops
(COST 86)¹**

Date of entry into force: 25.9.1980

Duration: 24.9.1983

Contracting Parties	Date of signing by the Contracting Parties	Date of entry into force
Belgium	25. 9.1980	25. 9.1980
Germany (Fed. Rep. of)	25. 9.1980	25. 9.1980
Netherlands	25. 9.1980	25. 9.1980
Greece	11.12.1980	11.12.1980
Yugoslavia	11. 9.1981	11. 9.1981
Switzerland	25. 9.1980	25. 9.1980

¹ Not published in the Official Journal.

Recapitulatory tables

Cost projects (Categories I and II)

Projects	11	25/1	25/2	61a	61a bis	64b	64b bis	68	68 bis	90
Decision of Community programmes					9.10.78		9.10.78		19. 3.79	20.2.78
Signatories										
European Communities	23.11.71			23.11.71	27. 3.80		27. 3.80		26. 7.79	27.3.80
Spain				23.11.71		23.11.71	3. 7.80			
Yugoslavia	23.11.71		23.11.71	23.11.71	30. 9.80	23.11.71	30. 9.80	23.11.71		
Norway	23.11.71					23.11.71	27. 3.80	23.11.71	26. 7.79	
Austria				23.11.71	27. 3.80				26. 7.79	
Portugal	23.11.71					23.11.71	27. 3.80			
Switzerland	23.11.71		23.11.71		30. 6.80	23.11.71	27. 3.80	23.11.71	26. 7.79	27.3.80
Finland		16.6.72						16. 6.72	26. 7.79	22.9.80
Sweden	23.11.71	16.6.72			27. 3.80		27. 3.80	23.11.71	26. 7.79	27.3.80
Turkey								12.10.73		
Entry into force	1. 2.73	1.6.73	1. 6.73	1.11.72	1. 4.80	1.11.72	1. 4.80	1. 8.72	1. 8.79	1.4.80
End of the project	1. 2.78	1.6.76	1. 6.75	1.11.76	31.12.82	1.11.75	3.11.82	1. 8.74	18.10.80	24.2.81
Category	I	I	I	I	II	I	II	I	II	II

¹ Table giving the countries which had previously signed the Council Decision concerning the breakdown of COST projects into four specific categories.

Projects	11	25/1	25/2	61a	64b	68
Signatories						
Belgium				19.12.73		19.12.73
Denmark				23.11.71	23.11.71	23.11.71
Germany (Fed. Rep. of)	22. 1.76	16.6.72		23.11.71	23.11.71	23.11.71
France	23.11.71	16.6.72	23.11.71	23.11.71	23.11.71	23.11.71
Ireland					23.11.71	
Italy	23.11.71		23.11.71	23.11.71	23.11.71	23.11.71
Netherlands	6. 8.74	16.6.72	23.11.71	23.11.71	23.11.71	23.11.71
United Kingdom	23.11.71			23.11.71	23.11.71	23.11.71
Greece				23.11.71		

Cost projects (categories III and IV)

Projects	201	202	204	205	208	211	30	43
Signatories								
Belgium	14.12.79	14.12.79	2. 7.81	24. 7.80	14. 6.78	31.3.77	31.3.77	14. 6.78
Denmark		14.12.79		24. 7.80	14. 6.78			15.12.77
Germany (Fed. Rep. of)	27. 3.80	14.12.79	13.11.80	13.11.80	15.12.77	31.3.77	31.3.77	
France	14.12.79	14.12.79		24. 7.80	15.12.77	31.3.77	31.3.77	15.12.77
Ireland	30. 4.81			6. 5.82	15.12.77			15.12.77
Italy	15. 1.80	15. 1.80	24. 7.80	24. 7.80	15.12.77	1.2.78	31.3.77	
Luxembourg								
Netherlands	14.12.79	14.12.79	23. 7.81	23. 7.81	14. 6.78	18.5.77	18.5.77	14. 1.82
United Kingdom	14.12.79	14.12.79	24. 7.80	24. 7.80	15.12.77	31.3.77	31.3.77	15.12.77
Greece								
Spain					15.12.77			10. 4.81
Yugoslavia		16.10.81					6.6.78	
Norway								15.12.77
Austria				20. 5.81			31.3.77	
Portugal	15.12.80			27.10.80				15.12.77
Switzerland		14.12.79			19. 5.78		31.3.77	
Finland	22. 5.80	14.12.79	24. 7.80	24. 7.80	19. 5.78		31.3.77	15.12.77
Sweden	14.12.79	14.12.79	24. 7.80	24. 7.80	15.12.77	31.3.77	31.3.77	15.12.77
Turkey	17. 4.80	17. 4.80						
Iceland								24. 3.81
ESA			6. 9.82	24. 7.80				
EC							16.1.78	
Entry into force	12.12.79	14.12.79	24. 7.80	24. 7.80	15.12.77	31.3.77	18.5.77	29. 6.79
End of the project	13.12.82	13.12.82	23. 7.83	23. 7.83	14.12.80 ¹	30.3.80 ¹	30.3.80 ¹	28. 6.83
Category	IV	IV	IV	IV	IV	IV	III	IV
Type of agreement	MoU	MoU	MoU	MoU	MoU	MoU	MoU	Internat.

¹ Extensions: COST 208 until 14.12.1983, COST 211 until 30.3.1982, COST 30 until 30.3.1984.

² COST 70 for an unlimited period.

Note: MoU = Memorandum of Understanding; Internat. = International Convention or Agreement.

46	47	50	53	56	70	72	82	83/84	85	86
5. 3.81	31. 7.80	19.12.73	18.12.73		7. 5.73		24.7.80	31.7.80	24.7.80	25. 9.80
23.11.81	5. 4.79				7. 5.73	13. 6.80	24.7.80	27.3.80	24.7.80	
	5. 4.79	32.11.71	23.11.71		7. 5.73	11.12.80	24.7.80	27.3.80	24.7.80	25. 9.80
14. 2.80	5. 4.79	23.11.71	23.11.71		7. 5.73	14.12.79		27.3.80		
14. 2.80	5. 4.79				7. 5.73			25.9.80	15.1.81	
		23.11.71	23.11.71		7. 5.73					
		23.11.71	5. 7.73							
14. 2.80	22. 5.80	23.11.71	23.11.71		7. 5.73	14.12.79	24.7.80	27.3.80		25. 9.80
14. 2.80	5. 4.79	23.11.71	16. 6.72		7. 5.73	14.12.79			24.7.80	
					7. 5.73					11.12.80
	27. 5.80		23.11.71		7. 5.73		23.1.81	25.9.80	23.1.81	
			23.11.71		7. 5.73			11.9.81		11. 9.81
11. 6.81	22. 5.80									
		23.11.71	23.11.71	10.6.76	7. 5.73					
13. 8.80	8. 4.82				7. 5.73	19.11.81				
		23.11.71		10.6.76	7. 5.73	13. 6.80	24.7.80	30.6.80	24.7.80	25. 9.80
14. 2.80					7. 5.73	14.12.79				
14. 2.80	5. 4.79	23.11.71			7. 5.73	13. 6.80	24.7.80	27.3.80	24.7.80	
					2.11.75		15.5.81	25.9.80		
	28.11.80	23. 5.78								
14. 2.80	5. 4.79	1. 7.72	1.11.72	10.6.76	1.10.75	14.12.79	24.7.80	27.3.80	24.7.80	25. 9.80
13. 2.83	4. 4.84	30. 6.83	1.11.75	9.6.82	2	13.12.84	23.7.83	26.3.83	23.7.83	24. 9.83
IV	III	III	IV	IV	IV	IV	IV	IV	IV	IV
MoU	MoU	Internat.	Internat.	MoU	Internat.	MoU	MoU	MoU	MoU	MoU

ANNEX

Categories of cooperation

Council¹

Cooperation within the COST framework (extract)

In regard to cooperation within the COST framework the Council, meeting on 18 July 1978, took the decision described below and instructed its President to forward these findings to the Chairman of the Committee of Senior Officials for Scientific and Technical Cooperation (COST) by letter:

The Council approved:

the four categories of cooperation set forth by the Commission in its communication concerning activities in the context of European cooperation in the field of Scientific and Technical Research (COST), namely:

Category I:

Community programmes, in which non-Community COST States may be involved;

Category II:

COST projects which also form the subject of a Community programme;

Category III:

COST projects where Member States participate in parallel to the Community;

Category IV:

COST projects where there is no participation by the Community.

¹ OJ C 100, 21.4.1979.

Index

This alphabetical index classifies and cross-references the projects according to the Contracting Parties and the subject-matter of the projects.

Agriculture	Page	Denmark	Page	Finland (cont.)	Page
— COST 82	335	— COST 202	239	— COST 68	23
— COST 83/84	271	— COST 205	325	— COST 68 bis	219
— COST 85	345	— COST 208	155	— COST 70	87
— COST 86	355	— COST 43	175	— COST 72	251
		— COST 46	261	— COST 90	303
		— COST 47	165		
Animal feed		— COST 61a	41	Food technology	
— COST 83/84	271	— COST 64b	49	— COST 90	303
		— COST 68	23		
Antennas		— COST 70	87		
— COST 204	313	— COST 72	251	France	
— COST 25/1	69	— COST 82	335	— COST 11	59
— COST 25/2	79	— COST 83/84	271	— COST 201	229
		— COST 85	345	— COST 202	239
				— COST 205	325
Atmosphere		Desalination		— COST 208	155
— COST 61a	41	— COST 53	33	— COST 211	119
— COST 205	325			— COST 25/1	69
		Digital techniques (telecommunications)		— COST 25/2	79
Atmospheric pollutants		— COST 202	239	— COST 30	129
— COST 61a	41			— COST 43	175
— COST 61a bis	283	Early weaning of piglets		— COST 46	261
		— COST 85	345	— COST 47	165
Austria				— COST 50/51/52	13
— COST 205	325	EC		— COST 53	33
— COST 30	129	— COST 11	59	— COST 61a	41
— COST 50/51/52	13	— COST 30	129	— COST 64b	49
— COST 53	33	— COST 47	165	— COST 68	23
— COST 56	109	— COST 50/51/52	13	— COST 70	87
— COST 61a	41	— COST 61a	41	— COST 72	251
— COST 61a bis	283	— COST 61a bis	283	— COST 83/84	271
— COST 68 bis	219	— COST 64b bis	293		
— COST 70	87	— COST 68 bis	219	Gas turbines	
		— COST 90	303	— COST 50/51/52	13
Basic field crops					
— COST 86	355	Electronic aids (traffic on major roads)		Germany	
		— COST 30	129	(Federal Republic of)	
Belgium				— COST 11	59
— COST 201	229	Environmental protection		— COST 201	229
— COST 202	239	— COST 61a	41	— COST 202	239
— COST 204	313	— COST 61a bis	283	— COST 204	313
— COST 205	325	— COST 64b	49	— COST 205	325
— COST 208	155	— COST 64b bis	293	— COST 208	155
— COST 211	119	— COST 68	23	— COST 211	119
— COST 30	129	— COST 68 bis	219	— COST 25/1	69
— COST 43	175			— COST 30	129
— COST 46	261	ESA		— COST 47	165
— COST 47	165	— COST 204	313	— COST 50/51/52	13
— COST 50/51/52	13	— COST 205	325	— COST 53	33
— COST 53	33			— COST 61a	41
— COST 61a	41	Finland		— COST 64b	49
— COST 68	23	— COST 201	229	— COST 68	23
— COST 70	87	— COST 202	239	— COST 70	87
— COST 82	335	— COST 204	313	— COST 72	251
— COST 83/84	271	— COST 205	325	— COST 82	335
— COST 85	345	— COST 208	155	— COST 83/84	271
— COST 86	355	— COST 25/1	69	— COST 85	345
		— COST 30	129	— COST 86	355
Benthic coastal ecology		— COST 43	175		
— COST 47	165	— COST 46	261	Greece	
				— COST 61a	41
				— COST 70	87
				— COST 86	355

Iceland	Page	Netherlands	Page	Portugal	Page
— COST 43	175	— COST 11	59	— COST 11	59
		— COST 201	229	— COST 201	229
		— COST 202	239	— COST 205	325
Informatics (European network)		— COST 204	313	— COST 43	175
— COST 11	59	— COST 205	325	— COST 46	261
		— COST 208	155	— COST 47	165
Ireland		— COST 211	119	— COST 64b	49
— COST 201	229	— COST 25/1	69	— COST 64b bis	293
— COST 205	325	— COST 25/2	79	— COST 70	87
— COST 208	155	— COST 30	129	— COST 72	251
— COST 43	175	— COST 43	175		
— COST 46	261	— COST 46	261	Radar	
— COST 47	165	— COST 47	165	— COST 72	251
— COST 64b	49	— COST 50/51/52	13		
— COST 70	87	— COST 53	33	Sewage sludge	
— COST 83/84	271	— COST 61a	41	— COST 68	23
— COST 85	345	— COST 64b	49	— COST 68 bis	219
		— COST 68	23		
Italy		— COST 70	87	Single cell protein	
— COST 11	59	— COST 72	251	— COST 83/84	271
— COST 201	229	— COST 82	335		
— COST 202	239	— COST 83/84	271		
— COST 204	313	— COST 86	355		
— COST 205	325				
— COST 208	155	Networks		Spain	
— COST 211	119	— COST 11	59	— COST 208	155
— COST 25/2	79	— COST 201	229	— COST 43	175
— COST 30	129	— COST 202	239	— COST 47	165
— COST 50/51/52	13	— COST 204	313	— COST 53	33
— COST 53	33	— COST 25/1	69	— COST 61a	41
— COST 61a	41	— COST 43	175	— COST 64b	49
— COST 64b	49			— COST 64b bis	293
— COST 68	23	Norway		— COST 70	87
— COST 70	87	— COST 11	59	— COST 82	335
		— COST 43	175	— COST 83/84	271
Luxembourg		— COST 46	261	— COST 85	345
— COST 53	33	— COST 47	165		
— COST 90	303	— COST 64b	49	Sulphur dioxide	
		— COST 64b bis	293	— COST 61a	41
Maize		— COST 68	23		
— COST 82	335	— COST 68 bis	219	Sweden	
				— COST 11	59
Mariculture		Oceanography		— COST 201	229
— COST 46	261	— COST 43	175	— COST 202	239
		— COST 46	261	— COST 204	313
Metallurgy and materials science		— COST 47	165	— COST 205	325
— COST 50/51/52	13			— COST 208	155
— COST 53	33	Ocean stations		— COST 211	119
— COST 56	109	(experimental European network)		— COST 25/1	69
		— COST 43	175	— COST 30	129
Meteorology				— COST 43	175
— COST 70	87	Optical fibres		— COST 46	261
— COST 72	251	— COST 208	155	— COST 47	165
				— COST 50/51/52	13
Minerals		Organic micropollutants		— COST 61a bis	283
— COST 86	355	— COST 64b	49	— COST 64b bis	293
		— COST 64b bis	293	— COST 68	23
				— COST 68 bis	219
		Pollution		— COST 70	87
		— COST 61a	41	— COST 72	251
		— COST 64b	49	— COST 82	335
		— COST 68	23	— COST 83/84	271
				— COST 85	345
				— COST 90	303

Switzerland	Page	Transport	Page	Visual telephone signals (redundancy)	Page
— COST 11	59	— COST 30	129	— COST 211	119
— COST 202	239				
— COST 208	155	Turkey			
— COST 25/2	79	— COST 201	229		
— COST 30	129	— COST 202	239		
— COST 50/51/52	13	— COST 68	23		
— COST 56	109	— COST 70	87		
— COST 61a bis	283	— COST 82	335	Weather forecasts (European Centre)	
— COST 64b	49	— COST 83/84	271	— COST 70	87
— COST 64b bis	293				
— COST 68	23	United Kingdom			
— COST 68 bis	219	— COST 11	59		
— COST 70	87	— COST 201	229		
— COST 72	251	— COST 202	239		
— COST 82	335	— COST 204	313		
— COST 83/84	271	— COST 205	325		
— COST 85	345	— COST 208	155	Yugoslavia	
— COST 86	355	— COST 211	119	— COST 11	59
— COST 90	303	— COST 30	129	— COST 25/2	79
		— COST 43	175	— COST 30	129
Telecommunications		— COST 46	261	— COST 53	33
— COST 201	229	— COST 47	165	— COST 61a	44
— COST 202	239	— COST 50/51/52	13	— COST 61a bis	283
— COST 204	313	— COST 53	33	— COST 64b	49
— COST 205	325	— COST 61a	41	— COST 64b bis	293
— COST 208	155	— COST 64b	49	— COST 68	23
— COST 211	119	— COST 68	23	— COST 70	87
— COST 25/1	69	— COST 70	87	— COST 83/84	271
— COST 25/2	79	— COST 72	251	— COST 86	355
		— COST 85	345		

European Communities — Council

COST projects. Collected Agreements concluded within the framework of European Cooperation in the field of Scientific and Technical Research, Volume 1, 1971-80

Luxembourg: Office for Official Publications of the European Communities

1983 — 375 pp. — 21 × 29.7 cm

DA, DE, EN, FR, IT, NL

ISBN 92-824-0111-1

Catalogue number: BX-37-83-207-EN-C


Price (excluding VAT) in Luxembourg

ECU 33.22 BFR 1500 IRL 24 UKL 19.50 USD 31

The collection of COST projects brings together the texts of all the Agreements concluded within the framework of European Cooperation in the field of Scientific and Technical Research since its outset.

This first volume, which includes the Agreements signed between 1971 and 1980, will shortly be followed by a second volume covering 1981 and 1982 and by other volumes at regular two-yearly intervals thereafter.

The texts of the Agreements are set out in chronological order, together with a synoptic table containing the significant dates and data for each Agreement. An index and recapitulatory tables at the end of the volume will make it easier to locate the Agreements by subject-matter or by participant country.

Price (excluding VAT) in Luxembourg				
ECU 33.22	BFR 1 500	IRL 24	UKL 19.50	USD 31
 OFFICE FOR OFFICIAL PUBLICATIONS OF THE EUROPEAN COMMUNITIES L-2985 Luxembourg				

ISBN 92-824-0111-1

